S. Hrg. 99-673

URANIUM REVITALIZATION, TAILINGS RECLAMATION, AND URANIUM ENRICHMENT PROGRAMS

HEARING

BEFORE THE

SUBCOMMITTEE ON
ENERGY RESEARCH AND DEVELOPMENT

OF THE

COMMITTEE ON
ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE

NINETY-NINTH CONGRESS

SECOND SESSION

ON

S. 1004

A BILL TO AUTHORIZE AND DIRECT THE SECRETARY OF ENERGY TO ESTABLISH A PROGRAM TO PROVIDE FOR RECLAMATION AND OTHER REMEDIAL ACTIONS WITH RESPECT TO MILL TAILINGS AT ACTIVE URANIUM AND THORIUM PROCESSING SITES

APRIL 10, 1986

Printed for the use of the
Committee on Energy and Natural Resources

U.S. GOVERNMENT PRINTING OFFICE
60-789 O WASHINGTON : 1986

S311-47

COMMITTEE ON ENERGY AND NATURAL RESOURCES

JAMES A. McCLURE, Idaho, *Chairman*

MARK O. HATFIELD, Oregon
LOWELL P. WEICKER, Jr., Connecticut
PETE V. DOMENICI, New Mexico
MALCOLM WALLOP, Wyoming
JOHN W. WARNER, Virginia
FRANK H. MURKOWSKI, Alaska
DON NICKLES, Oklahoma
CHIC HECHT, Nevada
DANIEL J. EVANS, Washington

J. BENNETT JOHNSTON, Louisiana
DALE BUMPERS, Arkansas
WENDELL H. FORD, Kentucky
HOWARD M. METZENBAUM, Ohio
JOHN MELCHER, Montana
BILL BRADLEY, New Jersey
JEFF BINGAMAN, New Mexico
JOHN D. ROCKEFELLER IV, West Virginia

Frank M. Cushing, *Staff Director*
Gary G. Ellsworth, *Chief Counsel*
D. Michael Harvey, *Chief Counsel for the Minority*

Subcommittee on Energy Research and Development

PETE V. DOMENICI, New Mexico, *Chairman*

JOHN W. WARNER, Virginia
CHIC HECHT, Nevada
DANIEL J. EVANS, Washington
MALCOLM WALLOP, Wyoming

WENDELL H. FORD, Kentucky
DALE BUMPERS, Arkansas
HOWARD M. METZENBAUM, Ohio
JOHN D. ROCKEFELLER IV, West Virginia

James A. McClure and J. Bennett Johnston are Ex Officio Members of the Subcommittee

K.P. Lau, *Professional Staff Member*

CONTENTS

Page

S. 1004 3

STATEMENTS

Bingaman, Hon. Jeff, a U.S. Senator from the State of New Mexico 27
Domenici, Hon. Pete V., a U.S. Senator from the State of New Mexico 1
Ford, Hon. Wendell H., a U.S. Senator from the State of Kentucky 24
Luke, Robert P., president, Uranium Producers of America 84
Metzenbaum, Hon. Howard M., a U.S. Senator from the State of Ohio 25
Vaughan, James W., Jr., Acting Assistant Secretary for Nuclear Energy, Department of Energy, accompanied by John R. Longenecker and William R. Voigt, Jr 28

APPENDIXES

Appendix I

Responses to additional committee questions 159

Appendix II

Additional material submitted for the record 219

URANIUM REVITALIZATION, TAILINGS RECLAMATION AND URANIUM ENRICHMENT PROGRAMS

THURSDAY, APRIL 10, 1986

U.S. SENATE,
SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, DC.

The subcommittee met, pursuant to notice, at 10 a.m., in room SD-366, Dirksen Senate Office Building, Hon. Pete V. Domenici, presiding.

Present: Senators Domenici, Hecht, Evans, Ford, Metzenbaum, and Bingaman.

Also present: K.P. Lau, professional staff member; and Benjamin S. Cooper, professional staff member for the minority.

OPENING STATEMENT OF HON. PETE V. DOMENICI, A U.S. SENATOR FROM THE STATE OF NEW MEXICO

Senator DOMENICI. Let's get started. Let me first indicate that I want to apologize to my colleagues, and especially to those Senators that cosponsored the original S. 1004, for such a short notice of this hearing. I think many of you know and certainly some of the lead witnesses know that we had originally scheduled this hearing for April 15, which would have given everybody a little more time. But, because of scheduling conflicts, that just would not accommodate, so we moved it up to today.

I would like to express a similar apology to the witnesses and an appreciation to them for their diligence and promptness in responding to our request that they participate.

Invitations were also extended to the State of New Mexico, to Edison Electric Institute, the General Accounting Office, the Environmental Policy Institute, Southwest Research and Information Center. Unfortunately, they were unable to respond because of the shortness of notice. So, what we are going to try to do is see if they would submit their testimony in writing, and we will leave the record open for 2 weeks.

I anticipate that a number of the witnesses that I have just enumerated will submit written statements which will be available to the subcommittee and committee before we begin markup and deliberation in a markup mode on this bill.

The domestic uranium industry, as everyone knows, has been in dire condition for some time now. The operating mines have dropped from 362 in 1979 to only 3 in 1986. The United States was once the leading supplier of uranium and now we produce only a small portion of our U.S. needs.

While it is clear that under the Atomic Energy Act, DOE shall restrict the enrichment of uranium from foreign countries for domestic use to assure the viability of the domestic uranium industry, the administration seems to maintain the same posture, an unbending posture as they do on any import limitation proposals, regardless of whether they are already in the law or not, or whether they are justified or not.

From the hearing last fall, we have learned quite a bit more about the problems of mill tailings cleanup, the cost distributions among the Federal Government, mines, utilities, and the States.

Uranium Enrichment Service Program once was nearly a monopoly in the world, for the United States; we were the provider. Today, DOE became the highest priced primary supplier of enriched services and lost more than 60 percent of the world market. The Utilities Service Contract was also challenged in court and was ruled "null and void." On top of all that, nobody seems to be able to agree on the amount of the so-called "Unrecovered Government costs" to be repaid to the U.S. Treasury.

Many feel that the time has come for us to operate the Enrichment Service Program in a more businesslike fashion, without compromising national security, and to ensure the continuity of the present plants, the operations thereof, and indeed, provide some assurance that they will remain the main source of enrichment in the United States.

My amendments on S. 1004 would attempt to address all these problems that I have just mentioned. While I fully understand that everyone involved may not feel strongly about all three issues, I must stress that because the problems are interrelated and broad in nature, at least from my standpoint, they must be dealt with together. To put it another way, we are more apt to solve all three problems if we try to solve them together.

We need to define our national policy concerning this important and strategic natural material and the service called uranium enrichment.

Without considering all the elements in the nuclear fuel cycle, such policy would not be sound and complete. For the good of nuclear industry, the energy independence, environmental concerns, and local economic concerns, we need to get on with it, as I see it, and that accounts for the expedited hearings today, because if we didn't do it today, we probably would be well into May or June before we could have accomplished the basic information gathering.

I understand that Secretary Herrington could not be here today due to a previously scheduled appearance before the Federal Energy Regulatory Commission, and with that, we are pleased to have Mr. Vaughan here today.

[The text of S. 1004 follows:]

99TH CONGRESS
1ST SESSION

S. 1004

To authorize and direct the Secretary of Energy to establish a program to provide for reclamation and other remedial actions with respect to mill tailings at active uranium and thorium processing sites.

IN THE SENATE OF THE UNITED STATES

APRIL 25 (legislative day, APRIL 15), 1985

Mr. DOMENICI (for himself, Mr. SIMPSON, Mr. BINGAMAN, and Mr. WALLOP) introduced the following bill; which was read twice and referred to the Committee on Energy and Natural Resources

---

A BILL

To authorize and direct the Secretary of Energy to establish a program to provide for reclamation and other remedial actions with respect to mill tailings at active uranium and thorium processing sites.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. This Act may be cited as the "Uranium Mill Tailings Reclamation Act of 1985".

FINDINGS AND PURPOSE

SEC. 2. (a) FINDINGS.—The Congress finds that—

(1) the Uranium Mill Tailings Radiation Control Act of 1978 (42 U.S.C. 7901 et seq.) was enacted to

provide for the reclamation and regulation of uranium mill tailings;

(2) the Uranium Mill Tailings Radiation Control Act of 1978 (42 U.S.C. 7901 et seq.) did not provide for a comprehensive method of financing reclamation and remedial action at active uranium and thorium processing sites; and

(3) the creation of an assured system of financing will greatly facilitate and expedite reclamation and remedial actions at such active uranium and thorium processing sites.

(b) PURPOSE.—It is the purpose of this Act—

(1) to facilitate and expedite reclamation and other remedial actions at active uranium and thorium processing sites;

(2) to establish a comprehensive system for financing reclamation and other remedial actions at such sites; and

(3) to allocate the costs of such comprehensive system of financing fairly and equitably.

REMEDIAL ACTION PERFORMED BY THE DEPARTMENT OF ENERGY

SEC. 3. (a) IN GENERAL.—The Secretary of Energy, or such person as the Secretary may, by mutual agreement, designate (including the State in which the active site is located, or the owner or licensee of the active site for which reclamation, decommissioning, other remedial actions, and long-term maintenance and monitoring is to be performed) shall, except as provided in section 4, select and perform reclamation, decommissioning, other remedial actions, and long-term maintenance and monitoring at active sites (as defined in section 10(1)).

(b) APPLICABLE STANDARDS FOR REMEDIAL ACTION.—Reclamation, decommissioning, other remedial action, and long-term maintenance and monitoring performed by the Secretary or the designee of the Secretary under this section shall—

(1) comply with all applicable requirements established pursuant to the Uranium Mill Tailings Radiation Control Act of 1978, as amended, or where appropriate, requirements established by a State that is a party to a discontinuance agreement under section 274 of the Atomic Energy Act of 1954 (42 U.S.C. 2021)); and

(2) be undertaken in consultation, as appropriate, with the State in which such active site is located, and in the case of Indian lands, the appropriate Indian tribe and the Secretary of the Interior.

(c) CONSENT OF PROCESSING SITE OWNER.—Unless the Commission determines that a permanent cessation of operations leading to the production of byproduct material has occurred at any active site, the Secretary or the designee of the Secretary shall commence actual reclamation and decommissioning activities only with the consent of the owner of the active site in question.

(d) CONTRACTS WITH OWNERS OF LICENSEES.—The Secretary may enter into a contract with the owner or licensee of an active site for any reclamation, decommissioning, other remedial action, or long-term maintenance and monitoring associated with that active site.

(e) TRANSFER OF LICENSES AND TITLE TO BYPRODUCT MATERIAL.—Not later than the date on which the Secretary or the designee of the Secretary begins reclamation and decommissioning activities at an active site, any license pertaining to byproduct material at such site shall be transferred to the Secretary and ownership of such byproduct material and land including any interests in such byproduct material and land that is used for the processing and disposal of such byproduct material, shall be transferred as provided in section 83(b) of the Atomic Energy Act of 1954 (42 U.S.C. 2113(b)).

(f) COSTS OF REMEDIAL ACTION TO BE PAID FROM TAILINGS FUND.—The costs for reclamation, decommissioning, other remedial action, and long-term maintenance and monitoring performed by the Secretary or the designee of the Secretary under this Act shall be paid from the Uranium Mill Tailings Fund established in section 8.

REMEDIAL ACTION PERFORMED BY OWNERS OR LICENSEES

SEC. 4. (a) IN GENERAL.—Notwithstanding section 3, an owner or licensee of an active site initially licensed after the effective date of this Act, may elect (in lieu of the Secretary) to select and to perform reclamation, decommissioning, or other remedial action at such active site.

(b) REMEDIAL ACTION TO BE PERFORMED IN ACCORDANCE WITH APPLICABLE STANDARDS.—Any reclamation, decommissioning, or other remedial action performed under subsection (a) by an owner or licensee shall comply with all applicable requirements established pursuant to the Uranium Mill Tailings Radiation Control Act of 1978, as amended (or, where appropriate, requirements established by a State that is a party to a discontinuance agreement under section 274 of the Atomic Energy Act of 1954 (42 U.S.C. 2021)).

REIMBURSEMENT OF COSTS

SEC. 5. (a) IN GENERAL.—The Secretary shall, subject to subsection (b), provide for reimbursement of costs, as determined by the Secretary, of any reclamation, decommissioning, other remedial action, and long-term maintenance and monitoring performed in connection with a site to which section 3 is applicable.

(b) LIMITATIONS.—

(1) Any reimbursement provided under subsection (a) shall be made—

(A) only to the licensee or to a property owner of record at the time such remedial action was undertaken; and

(B) only with respect to costs incurred by such licensee or property owner.

(2) No reimbursement for actual costs of reclamation, decommissioning, other remedial action, or long-term maintenance and monitoring may be made unless the Secretary, in consultation with the Commission (or, where appropriate, an agreement State), determines that such reclamation, decommissioning, other remedial action, or long-term maintenance and monitoring is necessary to comply with the requirements established pursuant to the Uranium Mill Tailings Radiation Control Act of 1978, as amended (or, where appropriate, requirements established by a State that is a party to a discontinuance agreement under section 274 of the Atomic Energy Act of 1954 (42 U.S.C. 2021)).

CONTRACT AUTHORITY FOR REMEDIAL ACTION FOR URANIUM AND THORIUM MILLS INITIALLY LICENSED AFTER EFFECTIVE DATE

SEC. 6. (a) IN GENERAL.—The Secretary may enter into contracts with owners or licensees of uranium or thorium mills initially licensed after the effective date of this Act to provide for the Secretary or the designee of the Secretary to perform reclamation, decommissioning, and other remedial action at such site.

(b) COSTS TO BE PAID BY OWNERS OR LICENSEES.—Each contract entered into under subsection (a) shall provide that the owner or licensee of the site for which the Secretary or the designee of the Secretary performs reclamation, decommissioning, and other remedial action shall reimburse the Tailings Fund for all reasonable costs associated with the activities of the Secretary or the designee of the Secretary under the contract.

CONTRACTS FOR PURCHASE OR SALE OF URANIUM OR THORIUM TO INCLUDE REMEDIAL ACTION FUNDING PROVISIONS

SEC. 7. Contracts for the purchase or sale of uranium or thorium entered into after the effective date of this Act shall include provisions for the cost of reclamation, decommissioning, other remedial action, and long-term maintenance and monitoring attributable to uranium and thorium processing activities conducted in the United States after the effective date of this Act.

URANIUM MILL TAILINGS FUND

SEC. 8. (a) ESTABLISHMENT OF TAILINGS FUND.—There hereby is established in the Treasury of the United States a separate fund, to be known as the Uranium Mill Tailings Fund. The Tailings Fund shall consist of—

(1) all contributions, receipts, proceeds, and recoveries realized by the Secretary of Energy under subsection (c) and section 9, which shall be deposited in the Tailings Fund immediately upon their realization;

(2) any appropriations made by the Congress to the Tailings Fund; and

(3) any unexpended balances available on the effective date of this Act, for functions or activities necessary or incident to the disposal of, or remedial action pertaining to, byproduct material, which shall automatically be transferred to the Tailings Fund on such date.

(b) USE OF TAILINGS FUND.—The Secretary of Energy may, subject to subsection (c), make expenditures from the Tailings Fund only for purposes of compliance with this Act, including expenditures for any reimbursement under section 5.

(c) ADMINISTRATION OF TAILINGS FUND.—

(1) The Secretary of the Treasury, after consultation with the Secretary of Energy, shall annually submit to the Congress a report on the financial condition and operation of the Tailings Fund during the preceding fiscal year.

(2) The Secretary of Energy shall submit the budget of the Tailings Fund to the Office of Manage-

ment and Budget annually along with the budget of the Department of Energy submitted at such time in accordance with chapter 11 of title 31, United States Code. The budget of the Tailings Fund shall consist of the estimates made by the Secretary of Energy of expenditures from the Tailings Fund and other relevant financial matters for the succeeding three fiscal years, and shall be included in the Budget of the United States Government. The Secretary of Energy may make expenditures from the Tailings Fund in such amounts as approved in advance in appropriation Acts.

(3) If the Secretary of Energy determines that the Tailings Fund contains at any time amounts in excess of current needs, the Secretary of Energy may request the Secretary of the Treasury to invest such amounts, or any portion of such amounts as the Secretary of Energy determines to be appropriate, in obligations of the United States—

(A) having maturities determined by the Secretary of the Treasury to be appropriate to the needs of the Tailings Fund; and

(B) bearing interest at rates determined to be appropriate by the Secretary of the Treasury, taking into consideration the current average market yield on outstanding marketable obligations of the United States with remaining periods to maturity comparable to the maturities of such investments, except that the interest rate on such investments shall not exceed the average interest rate applicable to existing borrowings.

(4) Receipts, proceeds, and recoveries realized by the Secretary of Energy under this section, and expenditures of amounts from the Tailings Fund, shall be exempt from annual apportionment under the provisions of subchapter II of chapter 15 of title 31, United States Code.

(5) If at any time the moneys available in the Tailings Fund are insufficient to enable the Secretary of Energy to discharge the Secretary's responsibilities under this section, the Secretary of Energy shall issue to the Secretary of the Treasury obligations in such forms and denominations, bearing such maturities, and subject to such terms and conditions as may be agreed to by the Secretary of Energy and the Secretary of the Treasury. The total of such obligations shall not exceed amounts provided in appropriations Acts. Redemption of such obligations shall be made by the Secretary of Energy from moneys available in the Tailings Fund. Such obligations shall bear interest at a rate determined by the Secretary of the Treasury, and shall

be not less than a rate determined by taking into consideration the average market yield on outstanding marketable obligations of the United States of comparable maturities during the month preceding the issuance of the obligations under this paragraph. The Secretary of the Treasury shall purchase any issued obligations, and for such purpose the Secretary of the Treasury is authorized to use as a public debt transaction the proceeds from the sale of any securities issued under chapter 31 of title 31, United States Code, and the purposes for which securities may be issued under such chapter are extended to include any purchase of such obligations. The Secretary of the Treasury may at any time sell any of the obligations acquired by him under this paragraph. All redemptions, purchases, and sales by the Secretary of the Treasury of obligations under this paragraph shall be treated as public debt transactions of the United States.

RESPONSIBILITY FOR COSTS FOR REMEDIAL ACTION

SEC. 9. (a) COSTS ASSOCIATED WITH URANIUM AND THORIUM PROCESSING ACTIVITIES BEFORE EFFECTIVE DATE.—The costs for reclamation, decommissioning, other remedial action, and long-term maintenance and monitoring activities, undertaken by the Secretary or the designee of the Secretary under section 3, associated with uranium and thorium processing activities before the effective date of this Act shall be shared by—

(1) the owners or licensees of pertinent active sites, as provided in subsection (c);

(2) the Federal Government, as provided in subsection (d); and

(3) persons using source material or special nuclear material for a civilian nuclear power reactor to generate electrical energy, as provided in subsection (e).

(b) CALCULATION OF COST FOR REMEDIAL ACTION FOR PROCESSING ACTIVITIES CONDUCTED BEFORE EFFECTIVE DATE.—

(1) The costs of reclamation, decommissioning, other remedial action, and long-term maintenance and monitoring activities that are attributable to milling operations before the effective date of this Act shall be the total costs multiplied by a fraction with:

(A) a numerator comprised of the total dry tons of tailings attributable to the site but generated prior to the effective date of this Act; and

(B) a denominator comprised of the total dry tons of tailings attributable to the site, ending on the date that the reclamation, decommissioning, or other remedial action is initiated.

(2) The Secretary may promulgate regulations relating to the calculation of the fractions specified in paragraph (1), and may require reasonable information to be submitted by the owners or licenses of the uranium or thorium processing sites concerning such calculations.

(C) Share of Costs of Owners or Licensees.—

(1) For uranium or thorium processing sites initially licensed before the effective date of this Act, the licensee or owner of each uranium or thorium site for which reclamation, decommissioning, other remedial action, or long-term maintenance and monitoring is performed by the Secretary or the designee of the Secretary shall pay to the Treasury of the United States, to be deposited in the Tailings Fund, an amount equal to—

(A) 15 per centum of the cost determined under subsection (b); and

(B) 100 per centum of the cost of such activities associated with uranium or thorium milling activities on or after the effective date of this Act.

(2) For uranium or thorium processing sites initially licensed on or after the effective date of this Act, and for which the Secretary or the designee of the Secretary performs reclamation, decommissioning,

other remedial action, or long-term maintenance and monitoring processing site shall pay to the Treasury of the United States, to be deposited in the Tailings Fund, an amount equal to 100 per centum of the cost for such activities.

(3) All payments by licensees or owners under this section shall be made on an annual basis for reclamation, decommissioning and remedial action undertaken during each preceding one-year period beginning on the effective date of this Act, in accordance with regulations promulgated by the Secretary. Payments by licensees or owners for long-term maintenance and monitoring shall be paid no later than the date on which reclamation and decommissioning of the active site is completed.

(d) SHARE OF COSTS OF FEDERAL GOVERNMENT.—In recognition that some active sites contain tailings which have resulted from ore processing to extract uranium and thorium under contract with the United States for use primarily in defense programs, the Federal Government shall pay into the Tailings Fund an amount equal to 30 per centum of the costs, determined under subsection (b), incurred during each one-year period beginning on the effective date of this Act for reclamation, decommissioning, other remedial action, and long-term maintenance and monitoring activities undertaken by the Secretary or the designee of the Secretary associated with uranium or thorium processing activities prior to the effective date of this Act.

(e) SHARE OF COSTS UTILITIES.—

(1) Persons using source material or special nuclear material for a civilian nuclear power reactor to generate electrical energy shall enter into agreements with the Secretary to pay a fee, as provided in paragraph (2), to offset 55 per centum of the costs, determined under subsection (b), incurred during each one-year period beginning on the effective date of this Act, for reclamation, decommissioning, other remedial action, and long-term maintenance and monitoring activities undertaken by the Secretary or the designee of the Secretary associated with uranium or thorium processing activities prior to the effective date of this Act.

(2) For electricity generated by a civilian nuclear power reactor and sold on or after the effective date of this Act, the fee described in paragraph (1) shall be equal to 0.15 mil per kilowatt hour. Such fee shall be paid to the Treasury of the United States and shall be deposited in the Tailings Fund.

(3)(A) Not later then one hundred and twenty days after the effective date of this Act the Secretary shall establish procedures for the collection and payment of the fee established by paragraph (1). The Secretary shall annually review the amount of such fee to evaluate whether collection of the fee, contribution by the owner or licensee, and the payments of the United States, will provide sufficient revenues to offset the costs experienced and expected for reclamation, decommissioning, other remedial action, and long-term maintenance and monitoring activities undertaken by the Secretary or the designee of the Secretary. In the event the Secretary determines that either insufficient or excess revenues are being collected, the Secretary shall, in order to recover the costs incurred by the Federal Government for reclamation, decommissioning, other remedial action, and long-term maintenance and monitoring, propose an adjustment to the fee established in paragraph (1) to ensure full funding. The Secretary shall immediately transmit this proposal for such an adjustment to the Congress. The adjustment to the fee proposed by the Secretary shall be effective after a period of one hundred and twenty days of continuous session of the Congress have elapsed following the receipt of such transmittal unless during such one hundred and twenty-day period there is enacted into law a joint resolution disapproving such adjustment.

(B) For purposes of the one hundred and twenty-day period described in subparagraph (A)—

(i) continuity of session of the Congress is broken only by an adjournment sine die; and

(ii) the days on which either House is not in session because of an adjournment of more than three days to a day certain are excluded in the computation of the one hundred and twenty-day period.

(4)(A) The Commission shall not issue or renew a license to any person to use a utilization or production facility under the authority of section 103 of the Atomic Energy Act of 1954 (42 U.S.C. 2133) or to use special nuclear material at such a facility unless such person has entered into an agreement with the Secretary under this section.

(B) The Commission, as it determines necessary or appropriate, may require as a condition to the issuance or renewal of a license under section 103 of the Atomic Energy Act of 1954 (42 U.S.C. 2133), or a license for special nuclear material under section 53 of such Act, that the applicant for such license shall have entered into an agreement with the Secretary for the disposal of byproduct material.

(f) LIMITATION ON FINANCIAL OBLIGATION OF ACTIVE SITE OWNERS AND UTILITIES.—Except for the payment of the fee and contributions provided in this section, the Federal Government may not impose any further financial obligation on persons using source material or special nuclear material for a civilian nuclear power reactor to generate electrical energy, or on owners or licensees of uranium or thorium processing sites, for reclamation, decomissioning, other remedial action or long-term maintenance and monitoring associated with active sites.

DEFINITIONS

SEC. 10. For purposes of this Act—

(1) the terms "active uranium or thorium processing site" and "active site" mean—

(A) any uranium or thorium processing site, including the mill, containing byproduct material for which a license (issued by the Nuclear Regulatory Commission or its predecessor agency under the Atomic Energy Act of 1954, or by a State as permitted under section 274 of such Act (42 U.S.C. 2021)) for the production at such site of any uranium or thorium derived from ore—

(i) is in effect on January 1, 1978;

(ii) is issued or renewed after January 1, 1978; or

(iii) for which an application for renewal or issuance is pending on, or after, January 1, 1978; and

(B) any other real property or improvement on such real property that—

(i) is in the vicinity of such site; and

(ii) is determined by the Secretary, in consultation with the Commission, to be contaminated with residual byproduct material.

(2) The term "Administrator" means the Administrator of the Environmental Protection Agency.

(3) The term "byproduct material" has the meaning given such term in section 11e. (2) of the Atomic Energy Act of 1954 (42 U.S.C. 2014(e)(2)).

(4) The term "civilian nuclear power reactor" means any civilian nuclear powerplant required to be licensed under section 103 ~~or section~~ 104 of the Atomic Energy Act of 1954 (42 U.S.C. 2133).

(5) The term "Commission" means the Nuclear Regulatory Commission.

(6) The term "Indian tribe" means any tribe, band, clan, group, pueblo, or community of Indians recognized as eligible for services provided by the Secretary of the Interior to Indians.

(7) The term "Secretary" means the Secretary of Energy.

(8) The terms "source material" and "special nuclear material" have the meanings given such terms in section 11 of the Atomic Energy Act of 1954 (42 U.S.C. 2014).

(9) The term "tailings" means the wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content.

(10) The term "Tailings Fund" means the Uranium Mill Tailings Fund established in section 8.

TECHNICAL AND CONFORMING AMENDMENTS TO THE ATOMIC ENERGY ACT OF 1954

SEC. 11. (a) OWNERSHIP AND CUSTODY OF CERTAIN BYPRODUCT MATERIAL AND DISPOSAL SITES.—

(1) Section 83a.(1) of the Atomic Energy Act of 1954 (42 U.S.C. 2113(a)(1)) is amended by inserting before "the licensee" the following: "the Secretary of Energy will be in a position to, or, as appropriate,".

(2) Section 83(b)(5) of the Atomic Energy Act of 1954 (42 U.S.C. 2113(b)(5)) is amended by striking out the last sentence.

(b) STANDARDS AND INSTRUCTIONS FOR BONDING, SURETY, OR OTHER FINANCIAL ARRANGEMENTS, INCLUDING PERFORMANCE BONDS.—Section 161x. of the Atomic

Energy Act of 1954 (42 U.S.C. 2201(x)) is amended by inserting after "ensure" in the matter preceding paragraph (1) the following:", for the share of costs for which the licensee is responsible".

AUTHORIZATION OF APPROPRIATIONS

SEC. 12. There is authorized to be appropriated, effective on October 1, 1985, to the Uranium Mill Tailings Fund, $290,000,000, to remain available until expended.

LIMITATION ON SPENDING AUTHORITY

SEC. 13. The authority under this Act to incur indebtedness, or enter into contracts, obligating amounts to be expended by the Federal Government shall be effective for any fiscal year only to such extent or in such amounts as are provided in advance by appropriation Acts.

EFFECTIVE DATE

SEC. 14. The provisions of and amendments made by this Act shall become effective upon the expiration of the sixty-day period following the date of enactment of this Act.

○

Senator DOMENICI. I will yield to Senator Ford, and any other Senators who have some opening comments.

Senator Ford.

STATEMENT OF HON. WENDELL H. FORD, A U.S. SENATOR FROM THE STATE OF KENTUCKY

Senator FORD. Mr. Chairman, I appreciate the fact that you are holding these hearings in light of all the things that you have to do. I hope that this is just the first of a series of concentrated attention to the whole spectrum of our uranium industry—mining, enrichment, sales, use, and waste disposal. I intend to assist you, Mr. Chairman, in your efforts in any way that I can.

One of the DOE representatives here today has described the uranium enrichment program, which I think is the core of the industry, in some pretty harsh terms. In referring to the major decisions in the past, he said that, and I quote,

> We did not do this in a vacuum; each year Congress appropriated money on it. We both made a mistake, we did the wrong thing for the country—they were government mistakes we should not have made.

Mr. Chairman, I believe the "mistakes" were in part due to a sort of benign neglect of the policy guiding our uranium program in the confusion of other major energy issues. Only recently has the Secretary of Energy recognized the fact that the industry is not viable. A fact that you have been insisting on for several years.

In the 1970's, Congress did not concentrate on the industry. In energy, we were tied up for several years on other issues—first, surface mining, then the massive Natural Energy Act, then the Natural Gas Policy Act, then nuclear waste and plant licensing.

When we did turn to uranium enrichment, the Clinch River breeder occupied our time. We did not closely attend to the basic points of policy departures in the whole program.

MR. CHAIRMAN, ANOTHER BASIC POLICY DEPARTURE POINT IS UPON US. ON APRIL 7, THE FEDERAL REGISTER CARRIED A NOTICE OF REQUEST FOR EXPRESSIONS OF INTEREST FOR PRIVATE PARTICIPATION IN THE DEPARTMENT OF ENERGY'S URANIUM ENRICHMENT PROGRAM.

I realize that today's hearings will concentrate on your amendment to S. 1004, legislation in which I have a great deal of interest. However, I hope that the committee schedule in the near future will permit a detailed look at the subject matter of the April 7 notice.

Department testimony touches lightly on the subject and the experts can testify with precision on details. However, they cannot testify with full authority. Only the Secretary of Energy can do that.

Mr. Chairman, I regret that the Secretary's schedule did not permit his appearance today. The testimony before FERC was to end at 9:30, in talking with FERC this morning—it is only six blocks away. Nevertheless, there will be another day.

I do look forward, Mr. Chairman, to the hearing and the testimony of our witnesses today.

Senator DOMENICI. Thank you, Senator Ford. Let me say to you, I can assure that if we need additional information, I will have no reluctance to ask the Secretary to come at another time, if it will clarify matters that are important to you or any other Senator here.

Senator **Ford**. I appreciate that, Mr. Chairman.

Senator **Domenici**. And frankly, I don't believe in this case, the Secretary—I do not think it is a case that he is trying literally to avoid being here. I think it was planned otherwise. We were working on a very short time schedule in terms of this testimony. Mr. Vaughan is the one who is informed on the subject matter and I think we will get a great deal of information.

Does any other Senator have any opening remarks? Senator Evans.

Senator **Evans**. No, Mr. Chairman. I am just interested, obviously, in the subject. Unfortunately, we have a Foreign Relations Committee meeting very shortly that I will have to go. I will have some written questions, which I will submit for response. I will be very interested, of course, in the testimony of Mr. Vaughan.

Senator **Domenici**. Senator, I know you have a genuine interest in the whole subject, and obviously a particular interest in that there are some mill tailings, in terms of one of the three motions that are addressed in the bill.

Senator Ford, I failed to comment on your opening statement. I do believe your analysis and conclusion of benign neglect is a very fair assessment. I think we went through about a 10-year period when we just thought all this was going to work out. If it is not going to work out something is going to happen; we are not going to have a uranium industry and if we are not careful, in my opinion, if the $7.5 billion that the OMB contends has been shortchanged in terms of fees, if that position is maintained to the letter, where they assume that that is all due from the private utilities, ignoring the fact that a substantial portion of the enrichment was for the Defense Department, it would appear to me that we will have no enrichment program left.

I don't think the private sector is going to pay back $7.5 billion that they really don't owe, in my opinion; the Defense Department owes a substantial portion. I think the enrichment business is gone; enrichment is going to go where it is the cheapest. We are not going to have any. That is just my opinion, and I intend to explore that in a lot more detail before we are finished.

Senator Metzenbaum.

STATEMENT OF HON. HOWARD M. METZENBAUM, A U.S. SENATOR FROM THE STATE OF OHIO

Senator **Metzenbaum**. Thank you, Mr. Chairman. I think this is a very appropriate time for this subcommittee to review the U.S. nuclear enrichment program. There are a number of administrative and legislative proposals before us which would radically alter the way this program operates.

Senator Ford has pointed out that Monday, the Department of Energy published a notice in the Federal Register seeking expressions of interest in "privatizing" the Federal Nuclear Enrichment Program.

The bill introduced by Senator Domenici also promotes privatization.

Senator DOMENICI. But in a substantially different way, Senator.

Senator METZENBAUM. I certainly recognize that, and I don't mean to group them together, but it is a different approach.

I don't have any problem about the Department of Energy seeking as many expressions of interest as it wants. I want to see where they are going.

Actually, though, turning the program over to private hands is a different story. It is probably an understatement to say that such attempts will be met with a great deal of skepticism and perhaps outright opposition.

But that is not to say that I want to take a firm, definite position against privatization. I want to hear more about what is being proposed and how it is being proposed and what effect it will have.

Attempts to privatize the enrichment program have been made before. Each initiative posed serious threats to national security, the stability and reliability of the enrichment program, our efforts to control the spread of nuclear material and technology, and the economy of the Ohio River Valley.

I am not convinced that things will be any different this time around.

We all know that taxpayers have invested billions of dollars in the Federal enrichment facilities. Their investment must be protected, as must the interests of the citizens and communities near the Portsmouth facility. They have made a serious commitment to the enrichment program, and the Government should not abandon them.

The burden is on the advocates of privatization to demonstrate it will be more effective than the current Federal program.

Will it protect our national security? Will it maintain a stable and reliable enrichment program?

Finally, of critical importance to this Senator, what will be the impact on the people of Ohio, their jobs and other affected States who have worked for years on behalf of a responsible enrichment program?

As I stated earlier, I am skeptical that privatization is the best approach for this program.

Frankly, I am concerned that this is just another scheme to generate cash for a quick budget fix at the expense of all these other interests. If this is the case, the plan will enjoy the same lifespan as the President's budget—it will be dead on arrival.

In summation, I want to say that I am interested in exploring privatization. I want to know what its impact will be. I want to know what the costs will be. I want to know who will be bearing the burden and I think it is a subject worth exploring, but without coming down with any final conclusion at this early stage.

Senator DOMENICI. Senator Hecht.

Senator HECHT. Thank you, Mr. Chairman. I commend you for these hearings, they are very timely and I am anxious to hear. Thank you.

Senator DOMENICI. Senator Bingaman.

Senator BINGAMAN. Mr. Chairman, I have a statement I will submit for the record. I do appreciate your leadership in trying to sort out these difficult issues which are long overdue for some kind of attention in my opinion.

Senator DOMENICI. The statement will be made a part of the record. Thank you.

[The prepared statement of Senator Bingaman follows:]

STATEMENT OF HON. JEFF BINGAMAN, A U.S. SENATOR FROM THE STATE OF NEW MEXICO

The U.S. nuclear fuel industry is in deep trouble. As you know, I am extremely concerned about the depressed state of the domestic uranium industry. The industry in New Mexico, once the predominant uranium producing state, has almost totally collapsed. Under section 161v. of the Atomic Energy Act, the Department of Energy has a statutory duty to assure the maintenance of a viable domestic uranium industry by limiting enrichment of foreign source uranium for domestic end-use. Unfortunately, until September of 1985, the DOE denied that the uranium industry was non-viable. Although DOE finally admits the industry is in deep depression, it now claims that it is too far gone to help. Some argue that DOE should not be allowed to use the deterioration caused by its own delay and as an excuse now to evade its statutory duty. There certainly is some appeal to that view.

In any event, Mr. Chairman, I believe that with appropriate federal policies, this country would once again enjoy the energy security and independence represented by a viable domestic uranium industry. Those policies should take into account the mounting evidence of unfair foreign competition, including subsidization and dumping. They should also take into account the adverse impact of many of DOE's enrichment policies on our domestic uranium producing industry. And they should recognize the government's responsibility with respect to the clean-up of AEC-related tailings at the various uranium producing sites.

Let me also focus on DOE's enrichment program for a moment. DOE issued a new enrichment contract in 1984. The General Accounting Office notes that, contrary to statute, this contract fails to recover the cost to taxpayers of providing enrichment services. Moreover, GAO states that the contract does not comply with existing enrichment regulations and should have been issued in a public notice and comment rulemaking and after an opportunity of congressional review. A district court has accordingly invalidated DOE's contract. DOE's response has been a proposed rulemaking to revise existing enrichment regulations to retroactively approve DOE's policies. Moreover, the regulation, like the President's budget, would write-off about $4.0 billion of what GAO and OMB estimate to be the taxpayer's $7.5 billion investment in enrichment. GAO has criticized DOE's proposed retroactive-approval regulations on a variety of grounds, including non-recovery of costs and loss of congressional oversight over the enrichment program. To add to the turmoil, the National Taxpayer's Union and the utility industry have challenged the amount of the write-offs as unlawfully high and too little respectively.

I have an additional concern. How does all this affect U.S. efforts to implement new enrichment technologies, such as AVLIS, and to remain or to become competitive in the international marketplace.

Mr. Chairman, I appreciate the effort you have made to begin to sort through these many problems, as evidenced in the proposed bill before us today.

It may well be that features of the bill will not be to the liking of one or more constituency. However, the basic point for all to recognize is this: the problems of the U.S. nuclear fuel industry must be resolved. There is no rug big enough to sweep them under, even up here on the Hill or over at the Department of Energy.

A solution is in the interest of utilities, utility rate payers, the Department of Energy, taxpayers, uranium companies, U.S. national security, and the environmental community. I hope that we can work together to achieve a fair, reasonable, and meaningful solution as soon as possible.

Senator DOMENICI. Mr. Vaughan, you may proceed. You have a detailed statement. You may handle it however you see fit. If you want to summarize it, fine; if you want to give it in its entirety, we are here to hear it.

STATEMENT OF JAMES W. VAUGHAN, JR., ACTING ASSISTANT SECRETARY FOR NUCLEAR ENERGY, DEPARTMENT OF ENERGY, ACCOMPANIED BY JOHN R. LONGENECKER AND WILLIAM R. VOIGT, JR.

Mr. VAUGHAN. Mr. Chairman, I am pleased to be here today to present our testimony on both the Department's proposed revision to the Uranium Enrichment Services Criteria, as well as to comment on the proposed amendment to S. 1004, which is presently before this subcommittee.

I have with me John Longenecker, who manages our Uranium Enrichment enterprise, and William Voigt, who directs our Office of Remedial Action and Waste Technology, which includes the Uranium Mill Tailings Program. They do not have separate statements, but they are here to assist me to respond to your inquiries.

I will, Mr. Chairman, present some summary remarks on the topics of interest and will therefore appreciate that my detailed written statement be included in the record.

Senator DOMENICI. Without objection, it will be made a part of the record.

Mr. VAUGHAN. Turning first, per your invitation and request, to address the Uranium Enrichment Services Criteria. I would like to first point out that, in most respects, DOE's Uranium Enrichment Services Criteria have remained fundamentally unchanged since they were originally established in 1966.

Therefore, these current criteria as they are on the books were not promulgated in the context of the marketplace as it exists today. It is, therefore, our conclusion that the criteria need to be updated to enhance our ability to conduct business efficiently and to be competitive.

DOE's proposed changes to the Uranium Enrichment Services Criteria, which were published on January 29, 1986, were drafted to address several key issues, including contracting, pricing, the recovery of Government investment and DOE's policy of enriching foreign origin uranium.

Under those proposed criteria, DOE could negotiate individual enrichment services contracts in accordance with an overall approach intended to maintain the long-term competitive position of the United States in the world market, while still recovering the Government's cost for providing these services.

The proposed criteria would provide flexibility concerning pricing, as well as other terms and conditions in the enrichment services contracts. These are necessary to compete in today's marketplace.

They would continue the existing policy against restrictions on the enrichment of uranium from foreign countries for domestic use, as well as the existing prohibition against discriminatory pricing.

The proposed criteria also state that their adoption would not invalidate any prior contracts.

Regarding the subject of recovery of prior Government investment, the proposed criteria also establish a mechanism by which the Department would return to the Treasury unrecovered investment associated with the provision of enrichment services to civilian customers.

As you are well aware, the outstanding Government investment will be reduced from $7.5 billion to approximately $3.5 billion. That reflects discussions between the Department and the Office of Management and Budget, and the difference of these amounts reflects the writeoff of the unproductive assets of the enterprise, which is explained more completely in the supplementary information that was published with those criteria.

The administration's policy of not imposing restrictions on the enrichment of foreign origin feed material destined for domestic use would continue under the proposed criteria, as I mentioned.

DOE's preliminary view is that such restrictions would not assist the domestic mining and milling industry in any meaningful way. On the flip side of the coin, import restrictions could have an undesirable effect on both the U.S. uranium industry and the DOE enrichment business.

A sweeping limitation could cause many of DOE's customers to reconsider their enrichment contracts with DOE due to the higher costs of purchasing natural uranium of U.S. origin.

As I believe all of the Senators know, interested parties were invited to comment on the proposed criteria as a part of the rulemaking process, and approximately 60 different sets of written comments were received.

DOE held a public hearing on the proposed criteria on March 18, and we appreciate your interest, Mr. Chairman, in taking the time to provide a statement in that regard.

Based on the comments we have received to date, DOE will soon publish an additional analysis regarding the recovery of prior Government costs in the Federal Register and request further public comments on that topic, based on this supplemental information.

The criteria changes are but one of a series of actions which we do believe are responsive to the realities of today's marketplace, and will enable the Department to fulfill more effectively its statutory mandate to encourage the development and utilization of atomic energy for peaceful purposes.

As we have testified in the past, there are a number of efforts under way which are enabling us to become more competitive, including increased efficiency of operation of the existing gaseous diffusion plants, the deployment of AVLIS as an advanced technology at an appropriate time somewhere before the turn of the century.

To review critically the institutional framework that is most appropriate to provide reliable, competitive enrichment services we are exploring a range of options, including increased involvement of the private sector. As was mentioned by two of the Senators in their opening statements, we issued on April 7, a request for expression of interest to determine what possible range of interest might be there.

That is a normal procedure in accordance with Government practices that we have to go through to help us determine the facts. I would reemphasize that no decisions have been made on any specific course of action and we are attempting to collect the necessary input to digest the facts.

I think it is fair to say we have no desire to enter into any plan that would not continue to result in reliable, competitive, and efficient uranium enrichment services, and we are really looking at what subjects are most appropriate for the Government to operate, versus a quasi-Government organization or a private sector organization to operate, and we are not simply motivated to raise quick cash for the Government in this particular initiative.

Let me next turn and comment on the proposed amendment to S. 1004, which was introduced earlier this week, to revitalize the domestic uranium industry.

The proposed amendment now under consideration specifies actions to be taken to achieve voluntary restraint by foreign producers in an effort to help reestablish a viable domestic uranium industry.

The administration remains generally opposed to the use of restrictions as an element of U.S. foreign trade policy. Accordingly, DOE cannot support restricting the importation of natural foreign uranium based, in part, on the lack of evidence that such restrictions would assist the mining and milling industry in a meaningful way.

The proposed amendment would also establish a fund, administered by DOE, to reimburse owners for the cost of remedial action for mill tailings at currently active mining and mill tailing sites, those not covered under title 1 of the Uranium Mill Tailings Radiation Control Act of 1978.

In my testimony on that subject last July, before this subcommittee and a corresponding House subcommittee in a joint hearing, I reviewed the status of the Department's title 1 program under that act, and the lessons which we have learned from our experience in carrying out that program.

The Department still questions the premise of legislation which would require U.S. nuclear utilities and the Federal Government to pay costs associated with the reclamation of currently licensed commercial facilities where remediation is a part of their obligation.

In addition to our experience in carrying out reclamation at the inactive title 1 sites, we find that this experience indicates that minimum Government involvement in managing the cleanup of the active title 2 sites would simplify execution of the various projects and reduce costs.

Your current amendment makes some movement in that direction, as contrasted to the bill which we considered last year.

However, the proposed amendment would assign to DOE, in consultation with the NRC, the responsibility for the identification of contaminated properties in the vicinity of these processing sites. And, in addition, the proposed amendment requires that the Department issue regulations and make a determination regarding reclamation activities performed by the owners prior to the effective date of the act.

Since the responsibility for selecting and performing remedial action at these processing sites is strictly between the owner and the NRC, we are concerned that DOE's involvement is likely to be cumbersome and inefficient. We believe these functions can be more effectively and efficiently carried out by the NRC, who must be involved anyway.

We would also note that establishment of a uranium mill tailings fund to finance remedial actions at active uranium and thorium processing sites may prove costly to administer. We note that the proposed amendment fails to provide for administrative costs. It also appears to us that the present language describing the reimbursement of costs and the refund of contributions from the fund to owners is likely to produce a number of problems and interpretations. We have commented on a few of those in our written statement.

We also would believe that refunds should be distributed uniformly to Federal, State, and reactor licensee contributors, prorated according to the amount of their respective contributions if such a fund should ultimately be established.

Finally, we would again note that we do not believe that the Federal Government should bear the total burden for reclamation of active thorium processing site tailings arising from coproduction of thorium for the Government and other products for the commercial market.

Turning to title 3 of the proposed amendment, we are obviously supportive of any actions that would resolve legal challenges to the validity of DOE's utility services contracts. We note that the title 3 of the proposed amendment is consistent with and supportive of the similar provisions of the proposed revisions to DOE's enrichment services criteria, discussed earlier, which we also consider would remove any question as to the continued validity of the individually negotiated utility services contracts.

Title 4 of the proposed amendment would require that DOE develop a plan to reorganize the Department's Uranium Enrichment Program through the establishment of a successor Enrichment Services Corporation.

As part of the institutional reform initiatives, which I mentioned earlier and which are a continuation of our overall strategic planning, DOE plans to examine various organizational alternatives that range from its current mode of operation to full privatization of the enrichment enterprise.

Therefore, the scope of this assessment would include, but not be limited to, consideration of organizational structures that are analogous to that proposed by the subcommittee in its present proposal.

In view of this, we would recommend that any specific approach to restructuring the uranium enrichment enterprise be flexible enough to incorporate the results of our review, which we are targeting for completion in the next 6 months.

Mr. Chairman, this completes my summary remarks. My colleagues and I would be pleased to respond to any of your questions at this time.

[The prepared statement of Mr. Vaughan follows:]

STATEMENT OF
JAMES W. VAUGHAN, JR.
ACTING ASSISTANT SECRETARY FOR NUCLEAR ENERGY
U.S. DEPARTMENT OF ENERGY
BEFORE THE
SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES
SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT

APRIL 10, 1986

Mr. Chairman, I am pleased to be here today to present testimony on the Department of Energy's (DOE's) proposed revision to the Uranium Enrichment Services Criteria as well as to comment on the proposed amendment to S. 1004, the Uranium Mill Tailings Reclamation Act of 1985, presently before this Subcommittee for consideration.

URANIUM ENRICHMENT SERVICES CRITERIA

As you know, Section 161v of the Atomic Energy Act requires:

1. that DOE establish Criteria setting forth the terms and conditions under which enrichment services shall be available;
2. that prices charged by DOE be nondiscriminatory and be based on the Government's costs in providing services;
3. that DOE shall restrict the enrichment of uranium from foreign countries for domestic use "to the extent necessary to assure (the) maintenance of a viable domestic uranium industry;" and
4. that DOE submit revisions to the Criteria to the appropriate Congressional Committees for a 45-day period before they become effective.

In most respects, DOE's Uranium Enrichment Services Criteria have remained fundamentally unchanged since originally established in 1966. However, the current Criteria were not promulgated in the context of the marketplace as it exists today. Consequently, the Criteria need to be updated to enhance DOE's ability to conduct business efficiently and to be competitive.

On January 29, 1986, DOE published a notice of proposed rulemaking in the Federal Register. The proposed changes to the Uranium Enrichment Services Criteria were drafted to address several key issues including contracting, pricing, and DOE's policy of enriching foreign origin uranium. Under the proposed Criteria, DOE could negotiate individual enrichment services contracts in accordance with an overall approach intended to maintain the long-term competitive position of the United States in the world market, while recovering the Government's costs for providing enrichment services. The proposed Criteria would provide flexibility concerning price as well as regarding other terms and conditions in enrichment services contracts. They would continue the existing policy against restrictions on the enrichment of uranium from foreign countries for domestic use as well as the existing prohibition against discriminatory pricing. The proposed Criteria also state that their adoption would not invalidate any prior contract.

Pricing

The proposed Criteria would allow DOE to negotiate prices as well as other terms and conditions with individual customers. They would offer all customers the opportunity to strike a bargain equal in attractiveness to other similarly-situated customers.

Recovery of Government's Costs

The proposed Criteria would also establish a mechanism for the recovery of outstanding Government investment in the uranium enrichment enterprise. Under this mechanism, DOE would return to the U.S. Treasury, over a reasonable period of time, previously unrecovered costs associated with the provision of enrichment services to civilian customers. As stated in the proposed Criteria, the outstanding Government investment will be reduced from $7.5 billion to approximately $3.5 billion. The difference in these amounts reflects the write-off of the unproductive assets of the enterprise, as explained in the supplementary information published with the proposed Criteria. Interest at 6.3 percent per annum would be added to the unrecovered Government costs and payments to the Treasury would be made annually. The practice of demonstrating recovery of the Government's costs in DOE's annual financial statements would continue.

Restrictions on Foreign Origin Uranium

The proposed Criteria continue the Administration's policy of not imposing restrictions on the enrichment of foreign origin feed material destined for domestic use. DOE's preliminary view is that restrictions would not assist the domestic mining and milling industry in any meaningful way. The difficulties currently facing the domestic mining and milling industry appear to stem from various factors, including the disparity between the quality of ore deposits and the production cost of domestic and foreign uranium, excess uranium inventories, excess production capacity, and cancellation of unneeded powerplants due to shrinkage in the demand for electricity.

Rather than help, import restrictions could have undesirable effects on both the U.S. uranium industry and the DOE enrichment business. A sweeping limitation would likely cause many of DOE's customers to reconsider their enrichment contracts with DOE due to the higher costs of purchasing natural uranium of U.S. origin. If DOE customers were to terminate their contracts in favor of overseas enrichers, they might obtain all of their natural uranium from foreign producers who offer attractively-priced package deals. Thus, the loss of enrichment sales to domestic utilities by DOE could further damage the U.S. uranium mining and milling industry.

Interested parties were invited to comment on the proposed Criteria as part of the rulemaking process, and approximately 60 different sets of written comments were received. (DOE also held a public hearing on the proposed Criteria on March 18, 1986.) Based on the comments we have received to date, DOE will soon publish an additional analysis regarding the recovery of prior Government costs in the Federal Register and request further public comments based on this supplemental information. Subsequent to the review and consideration of all comments received, DOE will submit the revised Criteria to Congress at least 45 days prior to their actual effective date pursuant to the Atomic Energy Act of 1954, as amended.

These criteria changes are but one of a series of actions which DOE has taken to restructure its Uranium Enrichment program in the last 2 years. As a result, the enterprise is becoming more price competitive and our market share is increasing. Price reductions are made possible by efforts to operate the existing gaseous diffusion plants in the most economical way possible. To ensure long-term competitiveness, DOE is also working to assure the timely deployment of the Atomic Vapor Laser Isotope Separation process. However, there is more to be done. Efforts are underway to develop the institutional framework that will assure that the Nation continues to have a reliable supply of enrichment services for the long term. We will continue to vigorously pursue a range of options that will stabilize and improve the competitiveness of the enterprise, including increased involvement of the private sector to ensure that the optimum benefits of the strategy on which we embarked several years ago are achieved.

The Department published a notice in the April 7, 1986, Federal Register that it was seeking expressions of interest from the private sector concerning potential participation in the Uranium Enrichment enterprise. This request for expressions of private sector interest is exploratory in nature. While our action is part of a broad Administration initiative to evaluate the transfer of certain Federal functions to the private sector, no decisions have been made by DOE regarding the sale of any uranium enrichment assets.

We believe that these actions are responsive to the realities of today's marketplace and will enable DOE to fulfill more effectively its statutory mandate under the Atomic Energy Act of 1954, as amended, to encourage the development and utilization of atomic energy for peaceful purposes. They are consistent with and supportive of the Department's view that

(1) civilian nuclear energy has a key role to play in assuring the Nation's energy security and strength and (2) continued prominence in providing enrichment services will further U.S. economic, national security, and nonproliferation goals. They reinforce continuing efforts to conduct the Department's enrichment activities in a more businesslike, competitive manner and will allow the United States to better utilize its strength and assets in the context of the highly competitive marketplace that exists today.

LEGISLATION TO REVITALIZE THE U.S. URANIUM MINING INDUSTRY

The proposed amendment is considerably broader than the provisions contained in S. 1004, which was limited to financing and managing remedial actions at active uranium and thorium processing sites. I presented the Department's views on S. 1004 last July in a joint hearing before this Subcommittee and the House Interior and Insular Affairs Subcommittee on Energy and the Environment. The proposed amendment now under consideration by the Subcommittee would (1) establish uranium import restrictions and domestic uranium usage requirements; (2) provide a funding mechanism for the reclamation of active uranium and thorium processing sites; (3) legislatively resolve legal challenges to the validity of the Department's Utility Services contracts; and (4) restructure the Department's uranium enrichment enterprise through the creation of a successor Enrichment Services Corporation.

Uranium Import Restrictions and Usage Requirements

The proposal now under consideration by the Subcommittee specifies actions to be taken to restrict uranium imports, including negotiations to achieve voluntary restraint by foreign producers, in an effort to reestablish a viable domestic uranium industry. If enacted, this legislation would (1) establish requirements for the use of U.S. mined and milled uranium in new fuel assemblies; (2) establish penalties for violation of U.S. uranium usage requirements; and (3) prohibit the purchase of foreign uranium by agencies of the Federal Government.

This Administration is generally opposed to the use of restrictions as a element of U.S. foreign trade policy. DOE does not support restricting the importation of natural foreign uranium, based in part on the lack of evidence that such restrictions would assist the mining and milling industry in a meaningful way.

Reclamation of Active Uranium and Thorium Processing Sites

Concerns over the uncontrolled disposition of uranium mill tailings, with the potential for public health and safety impacts, led to the passage of Public Law 95-604, "The Uranium Mill Tailings Radiation Control Act of 1978." Title I of that Act directed the Department to carry out appropriate remedial actions for certain inactive, largely abandoned uranium processing sites. Title II assigned responsibility for the decommissioning and stabilization of the licensed sites to the site owners under license with either the Nuclear Regulatory Commission (NRC) or the applicable agreement State. The legislation also authorized the Environmental Protection Agency to establish standards for the cleanup of the processing sites and the final disposal of the mill tailings.

In my testimony on this subject last July, I reviewed the status of the Department's Title I program under Public Law 95-604 and the lessons learned from our experience in carrying out that program. While I will not repeat that summary, which remains essentially unchanged, the Department recognizes that the costs associated with tailings reclamation at the processing sites covered by Title II of Public Law 95-604 remains an issue for many in the uranium industry. However, we still question the premise of legislation which would require U. S. nuclear utilities and the Federal Government to pay costs associated with the reclamation of currently licensed, commercial facilities.

In addition, our experience in carrying out reclamation at the inactive Title I sites strongly indicates that minimum Government involvement in managing the cleanup of Title II sites would simplify execution of the various projects and reduce costs. The proposed amendment would assign to DOE, in consultation with the NRC, the responsibility for the identification of contaminated properties in the vicinity of the processing sites. In addition, the proposed amendment requires that DOE issue regulations and make a determination regarding reclamation activities performed by owners prior to the effective date of the Act. Since the responsibility for selecting and performing remedial action at the processing sites is strictly between the owner and the NRC, DOE's involvement is likely to be cumbersome and inefficient. These functions can be more effectively and efficiently carried out by the NRC.

DOE believes that the establishment of a Uranium Mill Tailings Fund (Fund) to finance remedial actions at active uranium and thorium processing sites may prove costly to administer. We note that the Subcommittee proposal fails to provide for administrative costs. Moreover, present language describing the reimbursement of costs and refund of contributions from the Fund to owners is likely to produce problems in interpretation. For example, the $5.00 per dry ton limit can be interpreted either as a maximum amount for reimbursement or refund to owners from the Fund, or as a maximum remedial action cost against which to apply the two-thirds of cost reimbursement formula. Depending on the interpretation of the $5.00 per ton limit, it is possible that the Fund could be insufficient to meet required reimbursements.

The Subcommittee is also considering a provision that would refund excess contributions to the Fund beginning in January 1996, and annually thereafter. The specified formula requires pro-rata refunds to participating States until such States have been refunded the full amount of their contribution to the Fund; then, an additional refund is made to the States before any remaining excess is distributed to the Federal Government or to contributing nuclear power reactor licensees. The Department believes that refunds should be distributed uniformly to Federal, State, and reactor licensee contributors, pro-rated according to the amount of their respective contributions.

Finally, the Federal Government should not bear the total burden for the reclamation of active thorium processing site tailings arising from co-production of thorium for the U. S. and other products for commercial market.

Utility Services Contracts

Title III of the Subcommittee proposal would resolve any legal challenge to the validity of DOE's Utility Services (US) contracts. It is consistent with and supportive of the proposed revisions to DOE's Uranium Enrichment Services Criteria, discussed earlier, which would also remove any question as to the continued validity of the individually negotiated US contracts.

The provision extending the free variable tails assay option (VTAO) to all customers represents a change from our current practice where free VTAO is available only to those customers who elect to obtain 100 percent of their requirements from DOE.

Restructuring the Uranium Enrichment Enterprise

Title IV would require that DOE develop a plan to reorganize the Department's uranium enrichment program through the establishment of a successor Enrichment Services Corporation.

As part of its institutional reform initiative, DOE plans to examine various organizational alternatives that range from its current mode of operation to full privatization of the enrichment enterprise. The scope of this assessment would include, but not be limited to, consideration of organizational structures analogous to that proposed by the Subcommittee in its present proposal. As a result, we recommend that any specific approach to restructuring the Uranium Enrichment enterprise be flexible enough to incorporate the results of our study which will be completed in the next 6 months.

Mr. Chairman, this completes my statement. I would be pleased to respond to your questions at this time.

Senator DOMENICI. Thank you, very much. Is any Senator in a real hurry, and have to leave here in short order? If anyone has to, and wants to ask a few questions——

Senator FORD. I understand. Do we have a vote shortly?

Senator DOMENICI. Why doesn't someone from the staff try to find out.

Senator FORD. I will be glad to assist the chairman, while he goes to vote and come back.

Senator METZENBAUM. I am waiting for a call from the Judiciary Committee, that they have a quorum. Just as soon as they do, I have to leave. So, if the chairman wouldn't mind, I don't have a lot of questions.

Senator DOMENICI. That is fine. Go ahead, Senator.

Senator METZENBAUM. Mr. Vaughan, as part of any sale, will the Department of Energy require that any buyer continue operations at least equal to current levels and not close the existing facilities?

Mr. VAUGHAN. Senator, we have not devised a specific scenario for the condition of any sale because we haven't decided to make any sale. However, let me comment that having reviewed the enterprise, having clear knowledge of the contracts which we currently have in hand, which today run through 1996, and that is because they are 10-year rolling commitments, the amount of production which is required to meet those demands, plus those for military needs, would certainly involve a level of production commensurate with the capacity of both the Portsmouth and the Paducah plants, as they are now basically operating.

I frankly cannot envision any scenario in which the Government would enter into any arrangement where, in that approximate timeframe, we would not require any organization operating those plants to take any action other than to continue to operate them in order to meet the demands that are in hand that are contracted to deliver.

Senator METZENBAUM. How will the Government ensure itself an adequate supply of enriched uranium for all its defense needs? If the enrichment facilities are turned over to private hands, what happens if the owners close down the facilities?

Mr. VAUGHAN. First of all, any contracting arrangement that might be made with potential private owners and operators of the facility, certainly would have to include a commitment to provide the services not only for the level of contracts for civilian, but also for military. It would be no different from any other contract that the Government has for services—for example, General Dynamics builds submarines—and if the private corporation would take it over and decide to not continue to operate it, the Government would have to have provisions to take back the capability.

We would not enter into any arrangement which wouldn't give us the capability to meet both our civilian, as well as our military commitments, and certainly, the latter are commitments we cannot afford in any way to abrogate.

Senator METZENBAUM. Excuse me, Mr. Vaughan. Mr. Chairman, I was called to the Judiciary Committee. I will come back, Mr. Chairman.

Senator DOMENICI. Thank you, very much.

Senator Ford.

Senator FORD. I will just follow up a little bit on what Senator Metzenbaum said. Mr. Vaughan, do I understand your Department has not made a decision on whether to sell or to begin a contract with any private enterprise as it relates to AVLIS, Portsmouth or Paducah?

Mr. VAUGHAN. That is correct. We are in a factgathering process.

Senator FORD. Well, it is strange that I read in the newspaper statements by members of your Department, and the reporter who wrote that story is in this room today. It is obvious the President has already decided what to do because in the budget that he submitted to us, he proposed that AVLIS be sold. President Reagan's 1987 budget called for transferring the effort—referring to AVLIS—to private enterprise.

Now, that individual from your Department indicated that they threw Portsmouth and Paducah in as a sop to see if that would add any impetus to the request for interest from the private sector.

Now, that quote is here and I suspect that the reporter has it on tape. I know the reporter. He never lets me off without being specific. So, explain that part of it, Mr. Secretary.

Mr. VAUGHAN. The budget request is just that: It is a projection of funds that presumes we are exploring a course of action to increase private sector involvement. In no way does that mean the Government is going to welch on its commitments to supply——

Senator FORD. Mr. Vaughan, you are going around and around. You are playing games with me, and I would like for you just to be straight forward. The President's budget, if it had been passed, we would have proceeded to the sale to private enterprise of AVLIS, plus now with your advertisement, possibly Portsmouth and Paducah.

Mr. VAUGHAN. Let me let Mr. Longenecker respond to that, because I don't believe that is a correct characterization.

Senator FORD. But you are saying that is just a process and it is a process in the budget, and if the Congress approves the budget, it is gone.

Mr. LONGENECKER. Senator Ford, what we proposed in the fiscal year 1987 budget was a transfer of the AVLIS technology through time to the private sector. That is not a sale.

What we must recognize is that the gaseous diffusion plants, due to their high-power costs, will in time become uneconomical, probably about the turn of the century.

As such, we want to assure that the country, either the Government if we retain ownership, or the private sector, has an industrial base to deploy AVLIS. So, the proposal that we made in our fiscal year 1987 budget had two parts to it.

First, the initiation of an industrial access program in which we would allow qualified U.S. private sector companies to get access to the classified AVLIS technology. This process is similar to what we did in the past on the centrifuge technology. The objective is to assure that when we are ready to build an AVLIS plant, we have a qualified industrial base in the United States to build it.

So transfer of technology in that context, is from the Livermore Laboratory and Martin-Marietta, who are the sole repository today, to other qualified, cleared industrial participants.

The other announcement made in our fiscal year 1987 budget, or proposal to Congress, was that we would solicit private sector interest——

Senator **Ford**. That was in the budget?

Mr. **Longenecker**. Yes, sir.

Senator **Ford**. Right. And I just want to be sure—the President sent that up here.

Mr. **Longenecker**. Yes, sir.

Senator **Ford**. All right.

Mr. **Longenecker**. The other part of that proposal was that we solicit private sector interest in deploying the AVLIS technology. It is clear to us from the actions we have taken in the past 2 years, that the uranium enrichment enterprise is becoming more healthy, both financially and technically, and we believe that it is an important national asset that could be improved by drawing on the strengths of the private sector.

So what we are doing, both in the recommendations made in the fiscal year 1987 budget, and in the request for expressions of interest that we issued this week, is really part of a strategy that we announced 2 years ago.

We set out in 1984 to stabilize the U.S. uranium enrichment business, to put it on a sound financial footing, and then to look for a way in which we could stabilize it for the future.

This is merely the third step in that strategy.

In the first two steps, we asked our customers and others in the private sector, how we could best contract, how we could best do research and development, how could we best produce to meet the demands of our customers, foreign and domestic.

In this current stage, we are looking at how to stabilize the uranium enrichment infrastructure, and we are asking the private sector: How would you like to be involved? How can that improve the business?

That is solely our objective. So you should not confuse this with an attempt to sell or to transfer AVLIS immediately.

Our goal is to improve it, to make it better and to retain a very important national asset. So the question that is before us today is, Do we leave it in the Government, or do we allow it to go partially private or all private? The request for expressions of interest will give us the data which we can analyze and then make a recommendation to you as to what we think is best for the country in the future.

Senator **Ford**. Mr. Longenecker, are you aware that Secretary—and I am sure you are—Secretary Herrington testified that: one, that Portsmouth and Paducah were healthy now; second, DOE was reducing the costs per SWU to make them more competitive; and three, that there would be sufficient income that they could pay off the statutory debt requirement?

That was on February 18, as I recall.

Mr. **Vaughan**. Mr. Ford, that is a correct characterization of the testimony, which occurred here in this room, and I was here along with the Secretary. I think that my comments in response to Senator Metzenbaum's question were completely consistent with that; that I can't envision any scenario that in order to continue to meet the contracts that exist for civilian customers and demands for the military——

Senator FORD. You just said a few moments ago, and you can correct me if I am wrong, that nothing would transpire until the end of the present contracts, which would end in 1996.

Mr. VAUGHAN. The present contracts go through 1996, and each year, the customers roll their contract commitments for a following, for an additional year. So basically, it is a 10-year span.

So, 1996 is firm.

The point I want to make, Senator, if I may, is that even if the plants were turned over to a different form of operation than they are now, any imaginable scenario would keep both the Portsmouth and Paducah plants operating at approximately the same level as they are now operating in order to provide enrichment services to meet the deliveries that are envisioned.

Senator FORD. Mr. Secretary, on the day following Secretary Herrington's testimony before this committee, American Enrichment Co. made a proposal to the Department of Energy. In my opinion, that triggered your April 7 Federal Register request.

Now, in that proposal, American Enrichment Co. proposes that they triple Portsmouth—instead of having 1,000 machines, they have 3,000 machines. So when you triple the output of Portsmouth, what does that do to Paducah; where do they get their uranium—New Mexico, or will you, under those circumstances, allow them to bring it in from overseas. You apparently said that the administration is very much opposed to any kind of restrictions—which Senator Domenici has some interest in, and I do, too—and the only requirement is that a majority of the ownership of the company would be American.

That means 51 percent American, 49 percent something else, and they would pass a national security test.

Now, look at the philosophy and proposals of the administration—we are selling airports, we are selling railroads, we are proposing sale of Bonneville—and then these in the President's budget. In the President's budget there is a proposal—you can sit here and tell us that all of this is going to take a long time, it will be 10 years. Well, it has been 10 years since we have looked at this. That time passes pretty fast, and the second largest employer, in my State west of Louisville, KY, is the Paducah plant.

I am nervous about it and with the philosophy that is going forward in proposals, and the nervousness of the people down there, I want some kind of concrete answer; not that it is just going to be all right. You can't imagine anything or anybody operating it without having Paducah and Portsmouth, but under the proposals you have now, you could very well, one, go to offshore resources; two, triple Portsmouth, if you accept the proposal of American Enrichment Co.—there are a lot of things here, Mr. Vaughan, that disturb me.

I think I deserve some kind of answers, other than—everything is safe and secure. Well, for how long? Two days or until you all, on May 30, take in the proposals from your April 7 Federal Register notice.

Mr. VAUGHAN. Senator, there are a whole series of questions embodied in that, some of which are unrelated.

Senator **Ford**. They may be unrelated to you, but I would like to connect them, myself.

Mr. **Vaughan**. Well, we will try to connect them for you.

Senator **Domenici**. You plan the connecting while we go vote. We will be in recess for 6 or 7 minutes.

[Whereupon, the subcommittee recessed, subject to the call of the Chair.]

Senator **Domenici**. You may proceed.

Senator **Ford**. Mr. Chairman, on reflection going to the Senate and coming back, I want to make one thing clear for the record. I said the American Enrichment Co. would propose to triple capacity. Their initial proposal, I think, was for 750,000 SWU's and their longer range plan was to triple that. I think I should correct it for the record.

Senator **Domenici**. Right. Mr. Vaughan, you were going to answer Senator Ford.

Mr. **Vaughan**. Let me suggest that we respond to your inquiries, Mr. Ford, in that last round in three parts. First, I will ask Mr. Longenecker to clarify the situation with respect to capacity, with respect to the items you just mentioned.

Senator **Ford**. I was hoping I would——

Mr. **Vaughan**. There is an important point we need to clarify.

Mr. **Longenecker**. Senator, the expression of interest that we received from E.F. Hutton on behalf of American Enrichment Corp. has no specific centrifuge numbers in it, but we understand that they are contemplating tripling the number of centrifuges that currently exist at GCEP. When completed, that would give you 750,000 SWU's, if you tripled the number of machines there now.

That would be about one-fifteenth of the——

Senator **Ford**. Let me just, at that point—when they said no number, would you like for me to read from their proposal? I have their proposal in front of me, and they have specific numbers in that proposal.

Mr. **Longenecker**. Certainly, you may.

Senator **Ford**. All right. "AEC intends to complete construction of selected portions of the Portsmouth centrifuge facility sufficient to produce 750,000 SWU's of enrichment capacity." Now, they do have a number in their proposal, and they laid it out.

Mr. **Longenecker**. I was referring to the tripling of any capacity or numbers of machines, Senator.

Senator **Ford**. Well, you ought to say what you are referring to, and then not get me to say one thing and then you turn around and say something else. Let's stay on the same track.

Senator **Domenici**. Did you finish your explanation?

Mr. **Vaughan**. No, he didn't. It is important to understand total Portsmouth capacity. So, if you would clarify that.

Senator **Domenici**. Please proceed.

Mr. **Longenecker**. The 750,000 SWU's which you referenced is about one-fifteenth of the capacity of Portsmouth. Obviously, that would not, if that proposal were accepted and those machines were built, allow the closing of Paducah or Portsmouth.

With respect to the request for expressions of interest and the AEC proposal, there is absolutely no linkage between the two. We have been on a course for 2 years to attempt to make this business more competitive, and we discussed as early as January 1984 the possibility of soliciting private sector involvement in the program.

There have been a number of expressions made to the Department from Government and non-Government entities on utilizing the technology or the special purpose equipment from GCEP, which we terminated last June. But, the reasons for seeking expressions of interest was clearly connected to our objective of making this business more competitive, and it really has absolutely no bearing on the timing of the letter which we received from E.F. Hutton.

Senator **DOMENICI**. Senator Ford, do you have——

Senator **FORD**. I think there is——

Mr. **VAUGHAN**. Just for the record, let me clarify that total sales in a given year are in the 10- to 12-million SWU range, and so 750,000 is a small part of that total sales.

You mentioned national security, and let me assure you that any arrangement that is made will be done in a manner that will protect national security, just as there are other arrangements made in the commercial sector for private companies to build ships, airplanes, or equipment for those devices, where there is also a need to protect national security.

Senator **FORD**. Mr. Chairman, I could go on with this, and this doesn't help you in your desire to get your piece of legislation out. I would like to ask you if we could find some time when the committee could get into the privatizing of this particular industry.

We need to look at the intent behind some of these proposals, the bonding houses, or stock companies and brokers that are interested in getting into it. I think there is a great deal of thought that should be given to this. We could sit here and be assured by all that nothing is going to happen, but every step that is taken puts us into the posture of moving further away from Government control, closer into privatizing and they can still say to me that everything is safe and secure and nothing is going to happen.

But every step that is taken is moving us further and further away from something that I feel very strongly about—the security of this country.

I am going to stop my questioning here because I don't want to take your time, and I apologize for that. I hope that we can find some time, and Secretary Herrington will agree to come, because he is the one who will have the authority as it relates to the Department in making decisions.

Senator **DOMENICI**. Thank you, very much, Senator. Let me just say, we will try to do that. On the other hand, I would ask at least the staff on our side, and perhaps you would want them to do it on your side, too, to get prepared for the subcommittee before we call a subsequent hearing on privatization, a history of the existing laws with reference to uranium enrichment in the country; what would be required and how the Government would go about making the change from public to private.

It is my understanding at this point, in just a quick little summary, that you would have to come to the Congress in any event, to get authority to privatize the industry. Is that not correct?

Mr. **VAUGHAN**. That is absolutely correct, Senator. We would certainly want to do that in any case.

Senator Domenici. In any event, the point of it is, that doesn't meet the issue that Senator Ford is raising; it is not dispositive of the issue because obviously we could be conducting ourselves in such a way that the Department's activities may make it more inevitable rather than less inevitable that such would occur. I would like to have a summary of the situation for the committee and then we will get together, Senator Ford, and decide how we go about having a hearing.

In any event, the portion of my bill moves it in a direction substantially different than some of the proposals that are submitted. We probably would have to have additional hearings on that part of the bill.

Senator Ford. Yes. Let me just in closing, Mr. Chairman, read the proposal from E.F. Hutton for American Enrichment Co. "Properly structured, DOE can conduct a sale under administrative authority which it now possesses." Mr. Longenecker told the reporter that it may require congressional authority. Further on this, the documents I have states, "Under the general provisions of the Atomic Energy Act, DOE is permitted to sell its property or assets, to generally conduct its business without congressional approval." And it cites the statute.

> The Department also has the current administrative authority to lease its sensitive assets and to accept outside construction or completion of facilities as payment for that lease, as long as title and control remain with DOE. Upon issuance of the NRC license, AEC may then, under the provisions of the Atomic Energy Act, purchase the leased assets. The appropriate committees of the Congress would, of course, be kept fully informed on details of any such arrangement so that impacts on their constituencies can be properly factored into the decisionmaking process. However, no positive congressional decision is needed.

That bothers me.

Mr. Longenecker. Senator, what I think you can conclude is, that is E.F. Hutton's opinion. That is from a letter to the Secretary from E.F. Hutton.

Senator Ford. I said it was their proposal, Mr. Longenecker.

Mr. Vaughan. As I responded to Senator Domenici earlier, it would clearly be our intent to consult with Congress and to seek approval for whatever is required to be sought. Whether that approval is literally required or not, we would be pleased to brief this committee on a continuing and regular basis as to our activities, as we have always been willing to do.

Senator Ford. He says whether it is literally—I am not a lawyer, but——

Senator Domenici. We are going to get our staff to try to get an answer to that.

It used to be, Senator Ford, that when E.F. Hutton spoke, everyone listened, right? [General laughter.]

Maybe we have assurance from the Department that they may not be listening to that extent. [General laughter.]

Senator Ford. The Secretary just said "it may be" that, and the "may" is Mr. Longenecker's press statement, and that you would keep us apprised of what you were doing in transferring that to American——

Senator Domenici. No, he did not say that; he said he would keep us advised—not with reference to that proposal.

But in any event, let us get this on the record. It is your opinion at this time, Mr. Vaughan, that you could not effect the transfer, such as the one contemplated by E.F. Hutton, without legislative approval from the Congress.

Mr. **VAUGHAN**. That is my view at this time. We have not done a thorough analysis of the law, either. [General laughter.]

Senator **DOMENICI**. I saw the Secretary look back at his legal counsel, as I was making the statements—no, I was right. He said, yes. We will let the record indicate that legal counsel said that I was right, at least.

Senator **FORD**. That reminds me of a lawyer. I turned around to one fellow and said, "Which way should we go on this?" He said, "Go either way; we would make a damn good case." [General laughter.]

Senator **DOMENICI**. That is probably right. We will get an opinion from our own people, our staff, and then based on that, we will act accordingly. I am positive that this committee would have no difficulty clarifying that law and probably put it on something like an appropriation bill where it would get through. [General laughter.]

Maybe even put it on the Defense appropriation bill, and then it would surely get through. [General laughter.]

But, in any event, we will work with you on that. We do not want to see this——

Senator **FORD**. How about a continuing resolution.

Senator **DOMENICI**. A continuing resolution will have so many ornaments, we might as well put it on.

In any event, Senator, even if you were not through, you have taken more time than you deserve.

[General laughter.]

Senator **FORD**. I understand that, but as long as I can get away with it, I will try.

Senator **DOMENICI**. You got me in a friendly mood.

Senator Bingaman, do you have any questions?

Senator **BINGAMAN**. I do have just a couple of questions, Mr. Chairman. I am sure these are questions you will elaborate on, but let me just ask. About this whole viability issue, it is my understanding that last September, DOE finally did make a determination that the industry is not viable—the uranium industry in the country is not viable.

I guess my concern is that it does not appear to me that anything significant has occurred since then to remedy that situation. Is that incorrect? Is my perception erroneous?

Mr. **VAUGHAN**. I think that is a fair perception.

Senator **BINGAMAN**. As far as you know, is there anything planned by the administration to remedy that situation?

Mr. **VAUGHAN**. I presume your question is, are there any specific actions underway, other than to continue to evaluate——

Senator **BINGAMAN**. I am not asking about continuing evaluation and monitoring. I am asking if there are any specific actions that have been agreed upon in the administration to remedy the fact that we do not have a viable domestic industry.

Mr. **VAUGHAN**. You will recall that one action we took which is under our control, within the uranium enrichment enterprise, is to offer the free variable tails assay option to those customers who took 100 percent of their requirements from DOE, and in offering that option, that allows them to make a choice between the amount of feed and separative work units they purchase. And the economics would tend to move in the direction of buying more feed or more natural uranium. So that is a plus to the degree that it will offer an opportunity for purchase of more uranium.

The free market situation is still there.

Senator BINGAMAN. But you are not suggesting that that particular action will remedy the problem of a nonviable uranium industry, are you?

Mr. VAUGHAN. I don't believe that that action, in and of itself, would be a complete remedy; no, sir.

Senator BINGAMAN. No, the legislation that Senator Domenici has here lists as one of its purposes to reestablish a viable domestic uranium industry. That is a purpose that he sets out that the Congress has in going forward or in adopting this legislation.

Is that also a purpose of the administration or not? Do we have a basic—I guess what I am asking is, do we have any concensus on what goal we are trying to achieve? I get the perception that the Congress, at least some of us in the Congress would like to reestablish a viable domestic uranium industry, and that that is not a goal of the administration.

Is that perception accurate?

Mr. VAUGHAN. That perception is not entirely accurate. For example, the administration believes that, with the need for increased electricity demand, nuclear power needs to remain a viable option in this country. There are some things that need to be done in that regard; foremost among them is to rationalize the nuclear safety licensing and regulation process which is a subject that this committee has under serious consideration for the near future.

Those kind of things, to promote the fair opportunities for more nuclear plants, would hopefully increase the demand for uranium, because it is the negative side of those same factors—that is, shrinking demand for electricity—that caused the reduced demand for uranium.

At that point, we would expect the free market to work in the normal manner. So, it is a goal of this administration to have a viable nuclear power industry, in a free market; a viable uranium industry is a part of the front end of that fuel cycle.

Senator BINGAMAN. Is it fair to say that the administration favors a nuclear power industry and believes that free market forces will go ahead and bring about a viable domestic uranium industry as part of that? Is that your basic position? You do not think that separate action needs to be taken?

Mr. VAUGHAN. We would hope that that would be the net result.

Senator BINGAMAN. When would you expect that to occur?

Senator DOMENICI. Never. [General laughter.]

I do not think there is any indication that the administration—excuse me, Mr. Secretary—is the least bit concerned. Frankly, the issue of national security is not of concern in that respect—not that national security is not, but this administration has openly on many occasions told me that there is no concern on their part where the uranium comes from, so long as there are three or four sources, in particular Canada; I think that is fair statement.

In spite of the Atomic Energy Act indicating somewhat to the contrary and the Department having numerous remedies, to have rectified the nonviability situation. I am not complaining to Mr. Vaughan. I mean, he did not make the policy. But I think that is a fair statement.

He can tell us what he thinks is a fair statement, but I did not want to let time lapse without telling you what I know. I met with all of them and asked them. The OMB Directors say they are convinced—both, Stockman and Mr. Miller—that there is no concern about whether America has not been meeting production, even as to national security.

Canada is a reliable supplier in all respects, as they see it. And Australia was not too bad, they thought; even though they have stopped new mines as a matter of their own national policy.

Go ahead, Mr. Secretary. Excuse me.

Mr. VAUGHAN. I think your characterization, Senator Domenici, is that the administration policy is to let the free trade system work in terms of supply and demand in uranium—and is the current policy.

Senator BINGAMAN. I will quit with my questions, Mr. Chairman. I just did want to make it clear that, in my perception—I think you just confirmed this with your statement. My perception is that we have one basic disagreement between what you and others of us are trying to do here, which is to reestablish a viable domestic uranium industry.

That is not a goal of the administration, and therefore the basic purpose, to the extent that that embodies the purpose of the legislation, it is a purpose that is—a goal that is not shared.

Thank you, very much. I appreciate it.

Mr. LONGENECKER. Senator, I might comment that under the Atomic Energy Act, we have only a requirement to restrict the enrichment of foreign uranium to the extent necessary to provide for a viable domestic industry, as well as, the requirement that we annually assess the industry's viability. The difficulties in the mining industry, as well as in the uranium enrichment business and other parts of the nuclear industry, are quite similar. The facts of geology and exchange rates—very fierce foreign competition; large inventories of customer-held uranium, dramatic changes, and adjustments downward in the projections of nuclear power growth that have evolved over the past 10 years—have put the entire nuclear fuel cycle industry into very serious financial situation.

In the long term, the only thing that would revive all parts of the industry is the construction of new nuclear powerplants which are supplied by U.S. fuel cycle sources. That is a very important element in the administration's policy.

The problem is very apparent. The remedy is much less apparent.

Senator DOMENICI. Let me suggest that you have properly stated the statute. I mean, if ever there was already existing in law a legal obligation to maintain, to do whatever is necessary to maintain an industry in this country, that is the present statutory law.

To say it is not growing fast enough, perhaps because of other reasons, and therefore, when it does we will protect a defunct uranium industry, as I see it, in all deference to ycur genuine concern, is not complying with the law.

As a matter of fact, there are two or three things you did once nonviability was found—there is not anybody, including Mr. Vaughan who just answered the question—there is nobody that says that is going to revive it.

We do not have a uranium industry for all intents and purposes, and I would respond to your observation by merely saying, is there enough uranium demand now to justify the existence of an American uranium industry under the Atomic Energy Act, regardless of whether we change the laws and produce 10 percent additional nuclear capacity each year for the next 10 ot 15 years. That is not the relevant movement.

There is an awful lot of uranium being used by the United States of Ameican, is there not?

Mr. LONGENECKER. There is, indeed. There are still very large inventories, though, Senator, of both natural and enriched uranium which is depressing sales of both products.

Senator DOMENICI. That is correct. But at the same time there are substantial imports, are there not?

Mr. LONGENECKER. Yes, sir, and as we have reported, they are growing.

Senator DOMENICI. Are those out of mines or are those out of stockpiles?

Mr. LONGENECKER. The imports, or both?

Senator DOMENICI. Yes, the imports.

Mr. LONGENECKER. Both out of mines and stockpiles.

Senator DOMENICI. Overseas.

Mr. LONGENECKER. Yes.

Senator DOMENICI. They are mining overseas, are they not; they are mining in Canada? They are not mining in the United States.

Mr. LONGENECKER. Yes, they certainly are, but as I mentioned, part of the problem derives from the fact that their ore quality is higher than ours.

Senator DOMENICI. We are not even in the position where we can try to create any competition when they are all closed down. We do not have any mines alive in New Mexico, I do not think; I think there is a little Chevron experimental mine. For the first time since we started mining uranium—the uranium capital of the world has a little pilot project and nothing else. I mean, I think that is pretty good evidence of nonviability.

Not you all, but it took somebody 5 years—4 years to find that out.

Mr. LONGENECKER. Senator, my comments come from the perspective of measuring mining against uranium enrichment. What is required in the Atomic Energy Act is, of course, to restrict enrichment of foreign uranium to the extent necessary to assure viability. And we share many of the problems that they have, as you well know.

All of the elements that I mentioned, the inventories and the fierce foreign competition, have put us in a similar situation. At the end of fiscal year 1987, we will have one-third the number of people working in the U.S. enrichment business, than we had in

1984. It is a common problem of the entire nuclear fuel cycle industry.

Senator DOMENICI. I wanted to start my questioning with reference to the payback that is presently on the horizon which I believe is going to further cause uranium enrichment in the United States to be less competitive, rather than more.

But let me jump ahead for a moment, since Senator Bingaman raised the issue—a basic disagreement on uranium availability policy.

Let me jump quickly, Mr. Vaughan, with you on the uranium mill tailings cleanup. First, I understand that your experience with title 1, wherein the Federal Government conducts the entire cleanup and is the manager and lets the contracts. I understand the experience in that program has indicated that because of that, it has been extremely expensive; far more so than it should have been. And you conclude, therefore, that the next round of cleanups on the active sites ought to have a characteristics of minimal Federal Government management and control.

Let me suggest to you, I do not disagree with that.

On the other hand, I think we do have a substantial disagreement over the responsibility to pay for the cleanup. As I understand it, we start out with a nonviable uranium industry—nobody denies that anymore. We conclude—if you disagree with any of these assumptions, you tell me—we have a uranium industry out there that is not viable. We have active piles which are clearly a mixture of tailings that were put in those piles and in those places before the regulatory law came into being about cleanup; substantial portions of those tailings came from a defense-produced uranium, produced exclusively during that period of time, for the Atomic Energy Commission—up until a point not too long ago they were the exclusive buyer. There were no regulations up until a few years ago on how you clean them up, no mandates, and the Government was using a substantial portion of that uranium for national security.

Now, as I understand this administration's position, in spite of that, you conclude that we should not provide new legislation in place that splits up the cost of this cleanup—private sector, Federal Government, State.

As a matter of fact, I think your testimony does not even support the proposition that whatever the amount of money that might be due to the uranium enrichment program—whether it is the $350 million in my bill or the $7.5 billion OMB started with, or the $3.5 billion at somebody has arrived at—that none of that money should be used be used for cleanup is the position of the administration at this point. Is that correct?

Mr. VAUGHAN. Let me offer three comments to that series of propositions that you advocated.

Data that has been published and previously made available, would show that of the total amount of tailings that currently exist at active sites, approximately 30 percent would have been processed under Atomic Energy Commission or predecessor agency contracts. So, that is a fact that has been presented in data and reports.

Senator **DOMENICI**. And you agree that that is a pretty good number?

Mr. **VAUGHAN**. To the best of our knowledge, that is a close, accurate number.

Senator **DOMENICI**. Would you add to that statement that during that period of time, all of the rules, regulations, prices, and everything else were set by the Atomic Energy Commission? They were the exclusive regulatory and purchaser during that period of time?

Mr. **VAUGHAN**. I am not 100 percent sure of that fact, and I would like to answer that one for the record.

Senator **DOMENICI**. Will you please?

Mr. **VAUGHAN**. We may cross over in periods of time where the AEC was a user and the commercial industry had started to be active. So I would like to answer that one for the record.

[The information follows:]

SUMMARY OF GOVERNMENT ROLE IN EARLY DEVELOPMENT OF THE URANIUM INDUSTRY

From 1942 through 1947, the Manhattan Engineer District, Corps of Engineers, procured uranium from the development of atomic weapons. During that period, only about 15 percent of the total purchased was attributable to domestic production, and that all was obtained as a byproduct of vanadium production. The government incentive program for vanadium production was terminated in 1944, and by the end of 1946, vanadium-uranium production was essentially nonexistent.

In 1947 the newly established Atomic Energy Commission (AEC) initiated a program for procurement of uranium concentrates which continued until 1970. During those years, in definable stages, the market for uranium concentrates changed from a monopoly with the Federal Government as the only buyer, to a completely commercial market with no Government purchases. From the point of view of the Government, the situation regarding foreseeable supply changed from far short of that required for defense needs to adequate, to surplus.

Procurement policies and contracting practices were developed and adapted in response to the Government's changing needs and to the evolution of the uranium supply market. The period from 1947 through 1962 was characterized by guaranteed ore prices and individually negotiated concentrate prices. From 1962 through 1966, the program purchased concentrates at a fixed price with no ore purchases or price guarantees by the Government. From 1967 through 1970, a "stretch-out" program was in effect which permitted milling companies to voluntarily defer delivery of a portion of their 1963-1966 contract commitments in return for an AEC commitment to purchase.

In 1958, the AEC ended the Government monopoly on uranium purchasing, permitting domestic producers of ore and concentrate to make private sales to domestic and foreign buyers "for peaceful uses of Atomic Energy." The first private sales were made in 1966 and, as noted above, the Government procurement program ended in 1970.

All of the facilities which processed uranium for sale to the Government were initially licensed by the AEC, which retained the Federal licensing and regulatory authority until January 19, 1975, when the Nuclear Regulatory Commission was activated pursuant to to the Energy Research and Development Act of 1974. However, a number of States assumed licensing and regulatory authority over such facilities under agreements with the AEC which were authorized by a 1959 amendment to the Atomic Energy Act. Those "agreement" states in which milling facilities that supplied uranium to the AEC were located include Arizona, Colorado, Idaho, New Mexico, North Dakota, Oregon, Texas and Washington. Active uranium processing facilities in those states continue to be subject to state regulatory authority, while the NRC exerts regulatory authority over active mill sites in Utah and Wyoming.

Senator **DOMENICI**. It is relatively true; I mean, it is pretty much the case, is it not?

Mr. **VAUGHAN**. Approximately correct.

Second, my comments with respect to responsibility are primarily to note that uranium mill tailings remedial action law was passed with some consideration and discussion by this Congress in

1978, and as constructed, title 1 gave the Government certain responsibilities to both manage and fund the majority of cleanup on what were called inactive sites in that bill.

And, as constructed in the laws that exist today, title 2 makes the responsibility for what were designated as title 2, or active, sites under that law the responsibility of the owner, for which he is supposed to have been putting money in an escrow account to account for cleaning up the tailings.

If the Congress enacts new legislation, obviously the Department has to comply with the legislation.

In terms of the source of funding, that is almost an academic question. If Congress were to pass legislation and to say that so much Government dollars would have to go to this fund, it is like operating your checkbook—it doesn't make much difference whether it is the $350 million, or whatever number it is that is related to the uranium enrichment enterprise, or some other source of Government dollars because it comes out of the bottom line of your account.

Senator DOMENICI. Well, that is true, but they are related. There is a relationship between what the utility user ultimately pays for the enriched uranium and its overall costs, and in that respect, we would like to tie in the repayment to the industry ending up paying its share—that is, the utility industry—of the cleanup in this manner.

Mr. VAUGHAN. I understand the natural linkage between subject matter that you are trying to make.

Senator DOMENICI. You said you had two or three——

Mr. VAUGHAN. That is the third point.

Senator DOMENICI. Let me just go on with a couple more. We have one more witness, and clearly, we want to permit Mr. Luke to testify on behalf of the industry.

It appears to us that the options over the last several years have been somewhat successful in increasing your market share and making prices slightly more competitive. However, are not your customers seeking long-term program stability? It appears to me that that is one of the things that is most desired.

Mr. VAUGHAN. The answer is "Yes."

Senator DOMENICI. Wouldn't the legislation that we proposed go at least a significant way in providing that stability, by the provisions that would approve the utilities services contracts, rather a specific amount of debt—in our case, we think it is $350 million, but let us just answer the question in a general sense by getting that firmed up rather than having this fight as to what it is, and allowing you to move on toward restructing the corporation which is jointly owned by the Government and private sector, if that could be worked out with the concurrence of Congress?

Mr. VAUGHAN. I think we agree in principle with all of those statements. With respect to whether the type of organizational structure that you mentioned is optimum versus some other organization, we are not yet prepared to say.

Senator DOMENICI. I understand. Let me go on with reference to the rulemaking that you now have. I guess you know that a couple of days ago—I think it was the day that baseball started in the United States. Opening day, the President threw out the ball in the stadium and came back and signed a reconciliation bill, as I understand the timing. That is the one that came out of this year's budget action.

Do you not think that since establishes the payment plan for the next 3 years, as a matter of law—that is, the repayment plan—that you do not need the rulemaking request with reference to payment? That is good for the next 3 years, is it not? That is the law.

Mr. VAUGHAN. Senator, that is certainly a matter that we will need to consider in formulating the final rule. We certainly will give that consideration.

Senator DOMENICI. Let me make my position very clear. I really do not believe, with all the flexibility you have, that you can do any rulemaking that is inconsistent with that statute which just got signed, which says $100 million repayment, $150 million and $150 million for the years, the 3 years covered by that reconciliation bill. They are not back years; they are forward years.

I just want to make my position that you clearly could not rulemake and say they are going to pay $300 million a year. You do not have to agree with that, but I do not see how your lawyers could tell you there is any latitude at all beyond that.

Do you care to comment?

Mr. VAUGHAN. The rule, per se, the proposed rule indicates that we have determined an amount to pay and establishes a principle to begin payments. Likewise, the legislation establishes the amounts which you just cited, but also includes language, which we have not fully analyzed, that indicates a responsibility for the Secretary to determine certain amounts to be——

Senator FORD. Mr. Chairman, I am with you on your position. That was the last item in the conference committee; and that was very important. I do not understand why there ought to be any confusion.

Senator DOMENICI. Let me clarify just slightly. I believe to the extent that rulemaking would in any way contemplate more than $100 million, $150 million, $150 million—I think it is superfluous and irrelevant. With reference to some prospect, that you would come under that, the legislation is pretty clear in that it says these are ceilings, as I remember the language.

You might look at it, again, and to that extent it does seem to me that the rulemaking should have been addressed to the proposition of whether it should be less than that, because that is the latitude there is. But you can do that on your own. You have our expression. That is a pretty clear statute. I do not think you will have any trouble coming down on that.

Let me talk a minute about the appropriation of money by the U.S. Congress for uranium enrichment over the years, whether it is the result of benign neglect or whatever, when you get the point where you do not know how much Congress appropriates in addition to what you charged over the years that should be attributable to the private sector utility interests.

We all know that we appropriated money for the enrichment program through the years. We are aware that some of those years we appropriated more than was collected. And we are also painfully aware that there were differing reasons, one of which was a non-proliferation policy that we authorized and appropriated those funds for, or at least were motivated by during those years.

Of the net appropriations for military and civilian purposes, I would just ask a very specific question: How much of that total net appropriations occurred during the years of 1976 through 1979, during that time—that specific time period? Do you happen to know, Mr. Longenecker?

Mr. LONGENECKER. Approximately two-thirds, Senator.

Senator DOMENICI. Approximately two-thirds of the maximum amount that anybody could claim as an overage. What was there about those years that caused such a substantial portion of money to be appropriated in excess of the cost? Do you know?

Mr. LONGENECKER. Primarily the largest costs in those years, as I recall, were dedicated to pre-production—creating a pre-production stockpile, that was, in part, stirred on by the Nuclear Non-Proliferation Act. The Department was asked to study whether we should build a SWU bank and it recommended that we build it to keep at least 5 million SWU's in reserve for nonproliferation purposes. Thus, during those years that you mentioned, there was a significant amount of pre-production.

Senator DOMENICI. How were the American utilities involved in the nonproliferation goals and objectives? What was their mission in that?

Mr. LONGENECKER. The goals and objectives were a result of the act, the Nuclear Non-Proliferation Act of 1978. The administration's recommendations actually came from DOE at that time. To my knowledge, industry had no input.

Senator DOMENICI. Did they stand to gain and did they gain from the nonproliferation policy as far as their businesses?

Mr. LONGENECKER. Not to my knowledge.

Senator DOMENICI. But, nonetheless, not you, individually, but I assume it is a policy that they ought to pay for those millions in any event? For those costs.

Mr. LONGENECKER. Those costs of pre-production are reflected in the unrecovered Government costs. That is a portion of the $3.4 billion that we are proposing that be returned to Treasury.

Senator DOMENICI. How much of this use during these years, when we overappropriated, how much was for the military of the United States? Do we know?

Mr. LONGENECKER. Of the total amount of appropriations, of about $1.5 billion, in year of expenditure dollars, about $1.1 billion was for the military, and about $400 million was for civilian purposes.

Senator DOMENICI. Now, I am losing the $1.5 billion as having to do with what I have been talking about here. If you took that——

Mr. LONGENECKER. The $1.5 billion, Senator Domenici, is the net appropriations or that amount by which the outlays for uranium enrichment, both civilian and military, exceeded the revenues that we collected.

Senator DOMENICI. During what period?

Mr. LONGENECKER. During the period 1969 through the end of fiscal year 1984. Now, that net appopriation in part went to fund part of the total unrecovered Government investment of $3.4 billion that exists today. It was a portion of the funding source for the assets that we are trying to recover through the rulemaking.

Senator **Domenici**. We have only appropriated back $1.5 billion out of the $3.4 billion and the $3.4 billion, if it is a relevant number, is still owed on the books but has not been appropriated?

Mr. **Longenecker**. The unrecovered Government cost is a measure, from our financial statements, of the total outstanding value of our assets, including the gaseous diffusion plants, inventories of natural, enriched uranium and other AVLIS facilities and bookkeeping costs, like accumulated losses. They relate to the net appropriations only in that the net appropriations in some part paid, or helped fund the accumulation of those assets.

Senator **Ford**. What about the interest rates, Mr. Chairman? Does that play a part?

Mr. **Longenecker**. Yes, it certainly does.

Senator **Ford**. How much of a part, do you know?

Mr. **Longenecker**. I can't give you that number. I can provide it for the record.

[The information follows:]

Answers to these questions are contained in the attached material published in the April 25, 1986, Federal Register. This additional analysis was published to clarify questions from the public concerning the proposed Uranium Enrichment Services Criteria.

DEPARTMENT OF ENERGY
10 CFR Part 762
Proposed Uranium Enrichment Services Criteria

AGENCY: Department of Energy

ACTION: Proposed Rule; Additional Information and Comment Period

SUMMARY: The Department of Energy (DOE) is responding to requests for further analysis with respect to those provisions of the proposed uranium enrichment criteria which relate to (1) the "enrichment of foreign origin uranium" and (2) the "recovery of prior government costs." After careful consideration, DOE has determined that the analysis of the "enrichment of foreign origin uranium" provision in the preamble to the proposed criteria provides a clear and complete discussion of DOE's initial position. Accordingly, DOE has determined further analysis is unnecessary. However, DOE has determined additional analysis and information on issues related to "recovery of prior government costs" would be helpful in developing the rulemaking record on which DOE will make its final decision. In order to permit comments in light of this response, DOE is providing for an additional written comment period of thirty days.

DATE AND ADDRESS: Written comments must be submitted by (the thirtieth day after publication of this Notice) to
Mr. John P. Thereault, Office of Technology, Deployment and Strategic Planning, Office of Uranium Enrichment, Room A-172, Germantown, MD 20545.

FOR FURTHER INFORMATION CONTACT:

John Thereault
Office of Uranium Enrichment
U.S. Department of Energy
Washington, D.C. 20545
(301) 353-4610

Lawrence Leiken
Office of General Counsel
U.S. Department of Energy
Washington, D.C. 20585
(202) 252-6975

Ben McRae
Office of General Counsel
U.S. Department of Energy
Washington, D.C. 20585
(202) 252-6667

SUPPLEMENTARY INFORMATION:

I. Introduction

On January 29, 1986, DOE proposed several revisions to its Uranium Enrichment Services Criteria. (51 FR 3624) DOE requested written comments on this proposal by February 28, 1986, and provided for a public hearing which was held on March 18, 1986.

Among the written comments received were requests for additional analysis and information regarding two provisions of the proposed criteria. These provisions are (1) the "enrichment of foreign origin uranium" and (2) the "recovery of prior government costs." These comments also requested an opportunity to submit written comments on that information. On March 12, 1986, DOE indicated that it was in the process of considering these requests. (51 FR 8509).

With respect to the "enrichment of foreign origin uranium, the preamble to the proposed criteria describes DOE's position in great detail. In brief, the Atomic Energy Act requires DOE to impose restrictions on the enrichment of foreign origin uranium "to the extent necessary to assure the maintenance of a viable domestic industry." However, in the current and foreseeable marketplace, no restrictions on the enrichment of foreign uranium would, in fact, "assure the maintenance of a viable domestic uranium industry." The plain language of the statute makes clear that restrictions are not to be imposed for their own sake. Rather, DOE has a duty to determine whether their imposition would achieve the statutory objective of assuring the viability of the domestic industry. And, when DOE determines imposition would have a meaningless or counterproductive effect on this objective, DOE should not, and indeed, cannot impose restrictions.

While the Secretary of Energy has determined the domestic mining and milling industry was not viable in 1984, this determination does not authorize or require import restrictions. Such restrictions could not assist the industry in any meaningful way and certainly could not assure its viability. The difficulties currently facing the domestic mining and milling industry stem from a number of factors, none of which would be influenced by import restrictions. Indeed, import restrictions would have no long term positive effect on the consumption of domestic uranium. DOE cannot force enrichment customers to use domestic uranium when it is not in their economic self-interest to do so. To the extent domestic uranium is not competitive with foreign uranium, import restrictions would cause enrichment customers to seek enrichment services abroad. At best, restrictions could result in a very short-term increase in consumption of domestic uranium and, most likely, would have a detrimental effect on the industry. 1/

After reviewing the full discussion on import restrictions in the preamble to the proposed criteria, DOE has determined that the discussion provides a full and complete analysis of DOE's initial position on this issue. As such, interested persons have a more than sufficient basis on which to comment. Accordingly, DOE does not find it necessary to provide additional information on import restrictions.

With respect to the "recovery of prior government costs," a review of the comments on this subject reveals considerable disagreement over the calculation of unrecovered costs. Some commentators have criticized DOE for indicating an excessive amount of unrecovered costs, while others have asserted DOE understated significantly the correct amount of unrecovered costs. In view of these comments, and the fact that pricing for

---

1/ DOE's position is in accord with that of the United States Trade Representative. In his December 24, 1985 response to the Secretary, the Trade Representative rejected import restriction because any relief "would only be short term ... without resolving the long-term problems of the industry."

separative work, cost recovery, and cost accounting (including allocation of costs) are interrelated, DOE has determined it would be useful to describe more completely its analysis of these subjects as it relates to the recovery of government costs and their calculation. Accordingly, this Notice sets forth (1) the analytical framework in which DOE considers unrecovered costs and (2) the methodology DOE followed to derive the specific amounts of unrecovered costs described in the preamble to the proposed criteria.

II. Analytical Framework Concerning Pricing for Separative Work, Cost Recovery, and Cost Allocation

DOE's framework for consideration of pricing, cost recovery, and cost allocation issues is its analysis of what the Atomic Energy Act requires. That statute's guidance to DOE in providing enrichment services is set forth in section 161(v), which does not explicitly address cost recovery (let alone "full" cost recovery), cost allocation, or indeed disposition of revenues stemming from toll enrichment services. Section 161(v) does speak expressly to the pricing for separative work, but the entirety of its guidance is that prices "shall be established on a basis of recovery of the Government's costs over a reasonable period of time." In addition, section 161(v) requires DOE to implement this guidance through criteria such as those that are the subject of the current rulemaking.

Bringing meaning to these few words requires resort to the history of their development, as well as their implementation by

DOE and its predecessor agencies. Briefly summarized, that history indicates that Congress has mandated, in broad terms, adherence to a cost-based policy in establishing charges for separative work in contrast to a policy intended to yield a profit. Furthermore, that history reveals that while actual costs have been the starting point for determining customer charges, DOE always has considered the extent to which actual costs have been incurred to provide enrichment services to customers and has found it appropriate in establishing charges to include only those actual costs which relate to providing services to customers. From their outset, the enrichment criteria have included a provision under which some, but not all, of plant capacity costs are allocated to customer charges.

The proposed criteria, which allocate only the actual costs of utilized plant capacity to establish charges for separative work, continue both of these traditional aspects of implementing section 161(v). They do so in a way that accurately reflects the current fiscal and operating circumstances of the enrichment program.

Consistent with the requirement of the 1970 amendment to the Atomic Energy Act that established the non-profit policy for establishing charges for enrichment services, DOE's proposed criteria establish charges on a basis of actual costs. The proposed criteria continue in the current factual setting the principle embodied in the original criteria of allocating to the charges for enrichment service only the costs of that part of plant capacity actually used to render enrichment services. In 1966, when the original criteria were first adopted, (31 FR 16479, Dec. 23, 1966), unused plant capacity was excluded under the "Conway formula." The only conceptual difference between the original criteria and the current approach is the absence in the current approach of a specific formula 2/ under which unused capacity is excluded from establishing charges. The proposed criteria provide for establishing charges for commercial customers on a basis which recovers appropriate costs determined on a basis that includes the costs incurred in providing enrichment services to those customers.

DOE believes this approach makes common sense, is conceptually consistent with the way separative work has been priced since the beginning of the toll enrichment program, and is

---

2/ The formula itself does not appear in the statute and has never appeared in any version of the criteria. Rather, it is the product of a 1966 agreement between the Joint Committee on Atomic Energy and representatives of the Atomic Energy Commission. This history belies the contention the Conway formula is the only exception to "full" cost recovery under section 161(v). None of the discussions surrounding adoption of the Conway formula could have created an exception if section 161(v) required "full" cost recovery. Indeed, the Conway formula was lawful only because section 161(v) does not require full cost recovery. Adoption of the Conway formula confirms DOE's responsibility under section 161(v) to determine which costs are appropriate for recovery. See Uranium Enrichment Services Criteria and Related Matters, Hearings Before the Joint Committee on Atomic Energy, 89th Cong., 2d Sess. (August 2, 3, 4, 16 and 17, 1966) pgs. 32, 61-3. See also October 18, 1966, letter from Chairman Chet Holifield, Joint Committee on Atomic Energy, to Dr. Glenn T. Seaborg, and December 16, 1966, letter from Dr. Seaborg to Chairman Holified. Both letters are reprinted in the 1966 Hearings at 517-519.

entirely consistent with the 1970 amendment to section 161(v) of the Atomic Energy Act. There the Congress rejected a proposal to charge for separative work based upon a hypothetical construct of phantom costs not actually experienced by the Government in providing enrichment services. That proposed policy was perceived by the Congress as a profit-oriented initiative. In the report that accompanied the 1970 legislation, the Joint Committee on Atomic Energy rejected establishing charges for enrichment services based on hypothetical costs. Indeed, the Committee repeatedly described DOE's proper function as establishing charges not on the basis of full actual costs but only on those of the actual costs that are "appropriate" for recovery from customers. Thus, the 1970 amendment required the pricing policy to be cost - oriented rather than profit-oriented and it required DOE, through the criteria, to determine which costs incurred by the Government were appropriate for recovery in establishing charges for separative work.

Establishing the basis for determining those costs that are "appropriate" for recovery in establishing charges for separative work is left by the Atomic Energy Act for DOE, through the criteria and its actions thereunder, to accomplish. This results necessarily from the approach of the Atomic Energy Act, which specifies resort to criteria and which otherwise is entirely silent on the method of capitalization of the program's assets, accounting procedures to be employed, and disposition of revenues. All of these factors are pertinent to the pricing of separative work, but under the scheme of the Atomic Energy Act are left to the criteria and annual authorization and appropriation acts to establish in detail.

Cash outlays for administering the enrichment program, including provision of toll enrichment services for commercial customers, are determined annually by appropriation acts. Typically, these acts appropriate specific sums for a specific fiscal year, including appropriation of the revenues anticipated to be received that year in connection with providing toll enrichment services. One way to determine whether, and to what extent, unrecovered costs exist would be simply to calculate the net appropriations made for this activity since the program began, by adding all uranium enrichment outlays and then subtracting from that amount the aggregate revenues received in charges for rendering enrichment services. This methodology provides a reasonable picture of how the program is operating on a day-to-day cash basis and, as such, has been used in discussions about the program, including discussions with Congressional Committees considering the amount of unrecovered Government costs. A cash basis methodology, however, does not reflect all costs. The principal dimension lacking in a cash basis method is the value of assets transferred to the program at its beginning (reflecting, of course, expenditures previously made by the Government), including undepreciated plant and equipment, together with interest accrued on that balance.

DOE's annual financial statements for the enrichment program have always reported on an accrual basis all cost incurred to provide enrichment services, not just those costs set forth in appropriation acts. Consistent with this approach, the initial annual financial statement used the costs of the transferred assets as the starting point for determining unrecouped Government costs since the Government as a whole sustained a cost in acquiring those assets.

Were the approach for determining appropriate costs to stop at the initial decision to include the cost of an item in the program's annual financial statement, the result would be more consistent with those commentators who have criticized DOE's proposal as understating unrecovered costs. Under such an approach, DOE would never reconsider the utilization of physical assets in behalf of commerical customers and depreciation on these assets would continue to be included in establishing charges whether or not the assets were being used to provide enrichment services. In effect, DOE would never review its determinations of what costs were properly "appropriate" for allocation to commercial customers through charges for separative work.

DOE did not adopt such an approach for several reasons, including DOE's view that the enrichment program historically has been affected by a public as well as a commercial interest, and even in an analogous public utility context ratepayers would not have included in their rate base the costs of assets that are not used and useful. Thus, DOE does not allocate to the costs to be used in establishing charges for separative work those costs associated with unused capacity, including investment associated with a capacity increment that was terminated before being brought on line in commercial production.

DOE believes this approach most fairly accommodates the various objectives of the Atomic Energy Act as a whole, including the governmental as well as the proprietary aspects of the enrichment program itself. It is also an approach that corresponds to, as closely as this Government-financed program can, cost accounting principles that are generally recognized and applied in other major commercial enterprises.

In considering the preceding analysis, it must be kept in mind that determining what costs are appropriate for recovery does not, standing alone, establish prices for separative work. Charges for separative work necessarily include estimates of future costs and judgments about what is the "reasonable period of time" under which those costs should be recovered, as well as consideration of the public interest and other objectives of the Atomic Energy Act. Necessarily they are subject to revision in light of actual experience, including the actual marketplace in which sales of separative work must and will occur in the future.

Finally, it is worth noting that section 161(v) does not indicate what form the disposition of revenues should take. During this period of budget deficits, DOE believes it proper for the disposition of revenues to take the form of payments to the

U.S. Treasury and described a proposed payment schedule in the preamble to the proposed criteria. In this regard, DOE is aware that the Consolidated Omnibus Budget Reconciliation Act (COBRA) of 1985 established payment goals of $110 million for FY 1986, $150 million for FY 1987, and $150 million for FY 1987. Recognizing the interrelationship between pricing, cost recovery, disposition of revenue, and payments to the U.S. Treasury, the Conference Report on COBRA found that "maximizing repayments in the next three years may impair the financial integrity of the program in the longer term" and indicated that any payment schedule must be consistent with the financial integrity of the program, as well as reliability of supplies at competitive prices. In achieving the proper balance, the Report urged DOE "to consider a variety of factors..., including the appropriate price and market share, the impact upon existing enrichment facilities and other program expenditures, the impact upon research and development of advanced technologies for additional capacity, and the deficit reduction goals."

III. Unrecovered Government Costs

In the preamble to the proposed criteria, DOE stated there was $3,394 million 3/ of prior unrecovered Government costs which

---

3/ The preamble contained a figure of $3,457 million based on a preliminary draft of the 1985 financial statement for the enrichment program. The figures in this Notice are slightly
(Footnote Continued)

should be considered in establishing charges for commercial customers. This amount is based on application of the approach discussed in the preceding section to the categories of costs listed in the existing criteria and the annual financial statements published in connection with the operation of the enrichment program.

A. Costs Listed in the Criteria

The criteria list those categories of costs which DOE considers for recovery. These costs include expenses incurred in providing enrichment services to customers, as follows:

> (1) Electric power and all other costs, direct, and indirect, of operating the enrichment plants; (2) depreciation of enrichment plants; (3) costs of process development; (4) costs of DOE administration and other Government support functions; and (5) imputed interest on investment in plant, working capital, the natural uranium contained in those inventories at the DOE enrichment plants needed to provide enrichment services, and the separative work costs of preproduced inventories.

To the extent DOE determines a cost, which falls within one of these categories, is appropriate for recovery, the cost is used in establishing the charges for enrichment services. The unrecovered portion of such a cost is reflected in the annual financial statements as (1) inventory of separative work units (SWU), (2) undepreciated plant and equipment, (3) miscellaneous

---

(Footnote Continued)
different than those which appear in the preamble to the proposed criteria because DOE has refined the numbers which will be set forth in the program's annual financial statement for 1985.

assets or (4) cumulative loss (or profit). SWU inventories include those costs which were incurred to preproduce enriched material which has not yet been sold. Plant and equipment includes those costs which were incurred to acquire processing facilities to the extent those costs have not been included as depreciation in the annual financial statements. Miscellaneous assets consist primarily of working capital items, along with other enrichment assets. Cumulative loss (or profit) includes all costs which have been expensed to the extent revenue has not (or has) exceeded these costs. Each of these items includes a component for imputed interest.

B. Financial Statement

1. Initial Assets

The first published financial statement included about $1,500 million of unrecovered Government costs. These costs represented the value of the assets which were transferred to the enrichment program at its inception, adjusted to reflect prior cost recognitions and the fact that these assets had originally been acquired for military purposes.

Specifically, the initial unrecovered government costs were:

	(thousands of dollars)
Separative Work Inventories	$ 313,170
Plant and Equipment	1,064,035
Other Assets	110,590
Cumulative Loss	2,775
Amount to be Recovered	$1,490,570

Separative work inventories as of June 30, 1970, amounted to 15,862,000 SWU's. These inventories were produced in anticipation of higher future requirements for enrichment services. The $313 million value of this inventory reflects the cost of producing the inventory. The values established for the opening balances as of June 30, 1970, were based on accumulated costs and revenues since the start of preproduction of separative work in May 1964. Because of the varying judgments that could be used in establishing such values, computations were made using alternative accounting and economic methods in order to test the validity of the amounts established for these accounts. The results of these computations led to the conclusion that the valuation methods selected were appropriate and the amounts as of June 30, 1970, were fairly represented. The inclusion of the costs associated with the inventory was appropriate because the inventory was needed to provide enrichment services after 1970.

The plant and equipment balance of $1,064 million consisted of the undepreciated balance of the three gaseous diffusion plants (GDP). These plants were built to meet military needs at a cost of $2,044 million. The Department established a depreciation policy to expense the GDP costs over the service life of the individual components of each plant on a straight line basis. By the end of FY 1970, $986 million had been depreciated leaving a balance of $1,059 million. Construction work in progress amounted to $5 million.

After extensive discussions and hearings before the Joint Committee on Atomic Energy, it was determined it would not be appropriate to use the full undepreciated value of the GDP in establishing charges for customers after 1970 since considerable excess capacity existed. As a result, the portion of depreciation and interest on plant investment applicable to plants in standby status was not included in establishing customer charges and excess capacity was excluded as long as the percentage of plant used was less than 75 percent of the total capacity. This methodology was commonly referred to as the "Conway formula."

Other assets consisted primarily of working capital items, along with other miscellaneous enrichment assets. The accumulated loss of $3 million reflected the results of enrichment operations through FY 1970. The loss was carried over for recovery in the future.

2. Changes in Plant and Equipment

The costs of plant and equipment are recovered through the inclusion of an appropriate amount of depreciation in the enrichment program's annual financial statements. DOE has consistently used the straight line method of depreciation over established service lives for this purpose. The included depreciation, along with other costs, serves as the basis for establishing customer charges for enrichment services.

As a result of depreciation, the value of the initial plant and equipment has declined for purposes of calculating unrecovered government cost. At the same time, the program has invested in new plant and equipment. This investment initially increased the amount of unrecovered government costs. As with the initial unrecovered plant and equipment costs, this investment becomes less as it is recovered by means of depreciation.

3. Research and Development

The research and development costs used in establishing enrichment charges are limited to those research and development costs directly related to providing future enrichment services. All such costs relating to the diffusion process have been included. Centrifuge related costs were included beginning in FY 1975 when it was determined this research and development program was being conducted exclusively for potential production applications. Costs prior to FY 1975 have been excluded. The centrifuge related costs were eliminated as of June 5, 1986. A similar determination was made to include the advanced isotope separation R&D costs beginning in FY 1978. All Atomic Vapor Laser Isotope Separation ("AVLIS") costs prior to FY 1978 were excluded. Costs relating to the Molecular Laser Isotope Separation and Plasma Separation Process were dropped in FY 1982 when the AVLIS process was selected over the other two for enrichment purposes.

4. Interest

Since the beginning of the program, interest has accrued on unrecovered costs and has been reported in the annual financial statements. Through FY 1985, the imputed interest on these costs reported in the financial statements amounted to about $4,600 million.

Imputing interest is proper since the Federal Government incurs significant interest costs in financing its debt. Since this debt is the basis of the Government's investment in the enrichment program, interest should be imputed on the unrecovered portion of that investment. Through FY 1985, interest was imputed at a rate based on the previous year's average rate for outstanding marketable securities of the U.S. Treasury. Beginning in FY 1986, DOE is proposing to use a fixed rate of 6.319 percent (the average of prior Treasury rates used) to impute interest on existing unrecovered costs.

5. Current Unrecovered Government Costs

The following is a tabulation of unrecovered Government costs.

UNRECOVERED GOVERNMENT INVESTMENT
as of September 30, 1985
($ in Millions)

Inventories:			
Separative Work	$1,663		
Uranium	404	$2,067	
Plant & Equipment:			
Gas Centrifuge Enrichment Plant	2,589		
Gaseous Diffusion Plants	1,979		
Atomic Vapor Laser Isotope Separation	33		
Imputed Interest	171	4,772	
Other Balance Sheet Items		49	
Cumulative Loss from Operations		295	
Subtotal		7,183	4/
LESS: Loss on Capital Investment:			
Gas Centrifuge Enrichment Plant	2,589		
Gaseous Diffusion Plants	1,200	3,789	4/
Unrecovered Government Investment		$3,394	

In the preamble to the proposed criteria, DOE announced a reduction in the amount of plant and equipment costs to be recovered to reflect the fact these assets are not being used to provide enrichment services to customers. The amount of this reduction is equivalent to 60 percent of the value of the Gaseous Diffusion Plants (GDP) that is no longer an earing asset, and the entire value of the Gas Centrifuge Enrichment Plant (GCEP) which never was and never will be an earning asset. DOE believes this reduction is proper. Customers should pay a price which reflects only the actual costs of providing enrichment services. The

---

4/ These amounts do not include imputed interest after the effective date of recognizing a loss on capital investment. If the imputed interest were included from the effective date to September 30, 1985, imputed interest of $303 million would be added, changing these amounts to $7,486 and $4,092 million, respectively. In either event, the $3,394 million represents the unrecovered Government investment.

costs of items which are not, and most likely will not, be used in providing enrichment services to current customers are not appropriate for recovery. DOE has determined that none of the GCEP and only forty percent of the GDP's are used to provide enrichment services. Accordingly, only the costs associated with the utilized 40 percent of the GDP's are appropriate Government costs to be recovered over a reasonable period time. As a result of this reduction, the amount of unrecovered government costs appropriate for inclusion in establishing customer charges is $3,394 million.

6. Treatment of Government Transactions

DOE provides a portion of its production to meet U.S. Government requirements for enrichment services. The cost recovery computations have been structured so that the costs of providing enrichment services are allocated to commercial customers and to Government users on the same basis.

In the annual financial statements and cost recovery calculations, all costs are recognized. These total costs are offset by revenues. Since unrecovered Government costs result when costs exceed revenues, equitable allocation requires all customers be treated as paying the same price for enrichment services. For commercial customers, revenues are determined from sales invoices. For Government deliveries, revenues are imputed at prices equal to those charged commercial customers. This practice has been consistently followed and reported in the annual financial statements since the beginning of the program. Therefore, the costs of providing enrichment services are allocated proportionally to all customers. 5/

The treatment of Government and commercial revenues in the Federal budget process has varied over the years. However, the treatment of revenues and outlays in the budget process has never been the basis for determining the amount of unrecovered government costs. A review of the treatment of revenues and outlays in the budget process demonstrates the problems with using a budget or cash basis method of determining unrecovered Government costs. All the cash costs of providing enrichment services to commercial and Government users have always been included in the uranium enrichment budget. The treatment of revenues, however, has varied. Prior to FY 1980, commercial revenues were not used in annual Appropriations Acts as direct

---

5/ A change was made in FY 1986 which should result in a more precise allocation. Beginning in FY 1986, the cost of high assay enrichment production was separated and separate prices were developed for high and low assay production. The FY 1986 Government revenue includes amounts to reflect the separate high and low assay prices. The high assay price is considerably higher than the low assay price because of the less efficient equipment used in producing high assay material, and the additional safeguard, security, and environmental protection costs associated with higher enrichments. Since the Government is the primary user of high assay production, this change has resulted in increased costs being transferred to the Government users. DOE has not made this high and low assay adjustment retroactively because of the lack of cost data to make a defined cost allocation in prior years, and because the estimated impact of this adjustment is small (only $10 to $15 million per year). This FY 1986 change will be reflected in the FY 1986 financial statements.

offsets to uranium enrichment budget costs. From FY 1980 through FY 1986 commercial revenues were used as direct offsets to enrichment costs to arrive at a net enrichment appropriation amount. Through FY 1982 there were no Government revenues included in the budget process. A change was made in FY 1983 when revenues were included for Government deliveries for the first time. The revenues were calculated using the commercial price less the depreciation and imputed cost components. These cost components were not included because these non-cash costs are not included in the enrichment budget.

Issued in Washington, D.C., on April 21, 1986.

James W Vaughan, Jr.
James W. Vaughan, Jr.
Acting Assistant Secretary for
Nuclear Energy

Senator FORD. Is it the difference between the $1.5 and the $3.4 billion?

Mr. LONGENECKER. Well, we began with initial assets in 1969, valued at $1.5 billion, which we then, through net appropriations and collection of customer revenues, have built to where they are worth $3.4 billion today. We have been imputing interest on our assets since 1969. So, obviously, there is a large chunk of imputed interest in that number.

Mr. VAUGHAN. But it is not the total difference.

Senator FORD. Almost.

Senator DOMENICI. Let me see if there is any reason to this statement: If the defense utilization, out of the $1.5, was $1.1—my arithmetic would say it is $1.1 billion to $400 million, defense versus nondefense. That is a ratio. I do not have my calculator, but whatever that ratio is.

Would it be fair to say that whether the number that you are telling us about that is sought to be recouped is $1.5 or $3.4, that the ratio of $1.1 billion to $400 million should be—or, is, I should say, an adequate relationship of the burden that should be borne by Defense versus the burden that should be borne by civilian?

Mr. LONGENECKER. No, sir. That is not correct. The way that we apply the unrecovered Government cost is on a percentage of forward sales. So that as a portion of the unrecovered Government investment, between civilian and military customers, it would be allocated based on projections of future sales. In the future, the military comprises about 20 to 25 percent of our estimated sales over the next 10 years.

Senator DOMENICI. Then what was the $1.1 billion versus $1.5?

Mr. LONGENECKER. There are two different concepts we are discussing here. One is the unrecovered Government cost today; $3.4 billion, comprised of our assets of gaseous diffusion plants, inventories, test facilities, and accumulated net gain or loss. And the other concept is—how did you pay for those assets or where did the funding come from to build them up?

In the past, by our calculation, between 1969 and the end of fiscal year 1984, Congress appropriated about $1.5 billion more than we collected in revenues, and of that $1.5 billion, were we to allocate it by the rules in effect in each of those years, we would estimate that $1.1 billion of that funding went for military purposes, and $400 million of those net appropriations went towards civilian purposes.

Senator FORD. Mr. Chairman, could I interject a question?

Senator DOMENICI. Sure.

Senator FORD. Is the military or Defense Department, charged the same price per SWU as private enterprise?

Mr. LONGENECKER. No. Defense does not pay imputed interest or depreciation.

Senator FORD. So you charge private enterprise more than you do the Defense Department.

Mr. LONGENECKER. Yes, we do. It is not our practice to charge other Federal agencies either imputed interest or depreciation.

Senator FORD. Thank you, Mr. Chairman.

Senator **Domenici**. I will tell you, this is worse than the national budget for me. Maybe the numbers are too small. [General laughter.]

Let me ask this question: Obviously, I am quick to tell you that you have done a marvelous job of explaining but I have not been a very intelligent listener so I do not understand all these differences—of the $1.5 and the ration there, and the $3.4. But I do not think that is necessary.

What I am trying to find out is what is a fair recoupment from the private sector and I am firmly convinced that the three numbers that are being bandied around are not a fair assessment of what they ought to be paying back into this fund.

The utilities maintain that the civilian program received $350 in cash outlays from the Treasury. If the same pricing mechanism used today had applied in the past for military programs, do you agree that the net cash flow from the Treasury to the civilian programs, since 1969, would be about $350 million?

Mr. **Longenecker**. Senator, as I understand the utility calculation, the $350 million figure is a valid estimate. Assuming that you use today's rules, 1986 rules, for allocating between the military and civilian accounts, those approximate the net cash outlays that have been made by the Government for civilian purposes.

But that is a different concept than the unrecovered Government costs, which we were discussing earlier.

Senator **Domenici**. Let me just ask you one more time so that I would understand, what do unrecovered—just define simply for me the current definition of the Government's unrecovered costs. Would you?

Mr. **Longenecker**. OK. Senator, if I could describe both concepts. There are the assets that we have today and there is how you paid for them. We know that in the past, these assets that we built up, starting with the three GDP's that were deeded to us from the military in 1969—have grown to a value exceeding $3 billion.

Those assets were funded in part by net appropriations from Congress and, in part, from revenues from our customers. So, the $350 million, or our number of $400 million, of net appropriations for civilian purposes is a measure of how much Congress added to the civilian revenues to get the assets we have today.

So the assets we have today are worth $3.4 billion, and that has historically been reported in our annual financial statement as unrecovered Government costs. It is essentially the value of the assets we have.

That concept is not new. What is new in our proposal, in both the rulemaking and in our fiscal year 1987 budget is that the administration is proposing that we, in addition to recovering those costs by depreciating assets and including appropriate costs in our price, that we take the cash that flows from recovering our costs, set a fixed schedule and then make annual payments to Treasury. Those payments are derived from including the appropriate amounts for depreciation and imputed interest in our charge. So, it is a means, really, of writing down those assets, depreciating them through time, and returning cash to Treasury.

Mr. **Vaughan**. And I think it is important for the record, Senator, that the approximately $3.4 billion or $3.5 billion number already reflects a writedown of the assets for those portions of the gaseous diffusion plants that are not being used for the continuing production of SWU's and for the cost of GCEP plant which was terminated, which never was and isn't today an earning asset.

Senator DOMENICI. So what we have to do is to determine whether that format for recoupment, in all respects as policymakers, is fair, No. 1. There may be a second thing, that if we want the uranium enrichment, starting from a point in time, to become more viable, more competitive—whatever the pluses and minuses of trying to recoup back that full amount, which must have an impact—you cannot collect that much back for cost of services and not have an impact on cost.

So I assume that nobody intends that this is an ironclad formula; that truly, in every respect, is a fair assessment of what the private sector ought to pay. It is one way of looking at it. Is that a fair statement?

Mr. LONGENECKER. Yes, sir. Simply put, now that we are out of the construction program, there is net positive cash flow that can be used for various purposes, either returning to Treasury for payments, or reinvestment in the enterprise, or for other purposes. The utilities have stated they would like to see the price lowered.

The one very positive element of the proposal is that we are telling you that the program that we have restructured over the last 2 years will never require net appropriations from Congress again. The question really is, what do we do with our forward positive cash flow? How is it to be applied?

Senator DOMENICI. Senator Ford, do you have any other questions?

Senator FORD. No, I do not.

Senator DOMENICI. We have about eight or nine that I do not want to ask at this point; you have been here long enough. We have another witness and I am sure that we have to close pretty shortly. So, we will submit them to you for response, and in the meantime, if any of the Senators have questions, Secretary Vaughan, we will get them to you and we will appreciate your responding as soon as you can. If we conclude here and we need another hearing on the issue that Senator Ford raised and some others, we would attempt next time to give your more advance notice. I apologize for the short notice.

Mr. VAUGHAN. We will be pleased to respond to your inquiries.

Senator DOMENICI. Thank you, very much.

I am sorry to have kept you so long, Mr. Luke. I look forward to your testimony. We have it here and we will make it part of the record. You may proceed.

STATEMENT OF ROBERT P. LUKE, PRESIDENT, URANIUM PRODUCERS OF AMERICA

Mr. LUKE. Thank you, very much, Senator. I am Robert Luke. I am executive vice president of the Quivira Mining Co. and president of the American Uranium Producers of America, and I am appearing this morning on behalf of the Uranium Producers of America.

Mr. Chairman, with your permission, the Uranium Producers of America will submit a written statement within the 2 weeks you intend to keep the hearing record open, and I will summarize testimony this morning on two subjects: the rulemaking proceedings that DOE is now conducting with respect to the enrichment criteria, and second, comments on the amendment to Senate 1004.

Senator DOMENICI. We will keep the record open for your detailed statement, and anything you and your industry can do to shed some light on the discussion that we have had here today, just feel free to assume we want to hear from you.

Mr LUKE. I will start with that, Mr. Chairman. I can tell you, as a businessman, anyone who would have an opportunity to be relieved of $3.5 billion worth of debt and won't admit it, has some other reason besides the interests of his own business on his mind. There is no question that if this debt were reduced, it would make our enrichment industry much more viable and much more competitive and much more able to keep our own enrichment plants operating and keep full employment in that business, whether they are owned by the Government or by private enterprise.

Mr. Chairman, we believe there are three central issues facing the U.S. Government with respect to the supply of natural and enriched uranium to fuel U.S. reactors.

The first central issue is the question of whether or not the United States will develop any national plan or policy with respect to uranium fuel supply for our nuclear power program. This question necessarily involves establishing a relationship between the natural uranium or raw material supply industry, represented in large part by our membership, and the enrichment industry, presently owned and operated for the Federal Govermment by the Department of Energy, and the nuclear utilities.

It may be worth noting that every other major industrial nation has established a program of uranium fuel supply for its home nuclear power industry. Only the United States, which has the largest nuclear power base in the industrialized world, now operating more than 100 reactors and having invested approximately $300 billion in its nuclear program, is without any definable national uranium supply policy.

For example, Canada requires that its state-owned utilities purchase all uranium requirements for 30 years into the future before allowing any uranium exports. France, which has a limited supply of domestic uranium, utilizes its domestic production capacity first and relies second on government equity-owned production from producing nations around the world.

The United Kingdom, Germany, Japan, Switzerland, Sweden, Taiwan, Korea and other nations which do not have domestic resources, all have specific targets for inventory, equity ownership of production and long-term contract coverage of required natural and enriched uranium supply.

We feel that there is room for public policy on uranium without undue interference in the private sector.

The second central issue facing our industry is finding a fair and reasonable solution for balancing environmental and regulatory costs against the value of keeping domestic uranium production and processing industry. In particularly, we find the uranium industry burdened by new regulations requiring that very expensive reclamation of mill talings now be undertaken at mill sites which have been in operation for more than 30 years.

Because our industry is in a state of dire economic distress, and most of the mills have been closed or placed on standby, it is not possible to pay these environmental costs from profits on current production.

The third central issue facing the uranium supply industry is finding an appropriate way to enhance the competitive posture of the U.S. enrichment industry. It is our view that a strong uranium supply and enrichment industry go hand in hand.

In order for the United States to be competitive in the world nuclear fuel market over the long term, it will be essential to adopt a view of enriched uranium supply that encompasses, at a minimum, the so-called entire front end of the nuclear fuel cycle.

The Uranium Producers of America believe very strongly that the proposed legislation, as it has been amended, addresses in a very positive and comprehensive manner all of these central issues affecting natural and enriched uranium supply in the United States. We support the enactment of this legislation.

Mr. Chairman, the Uranium Producers of America are especially concerned about the Department of Energy's rulemaking on the proposed changes to the Uranium Enrichment Services Criteria as published in the Federal Register of January 19, 1986.

We feel that the existing law is very clear concerning the Department of Energy's obligation to restrict uranium imports for domestic end use. DOE is required by section 161 of the Atomic Energy Act to restrict the importation of uranium of foreign origin for use in domestic reactors to the extent necessary to maintain a viable domestic uranium industry.

It is our view that the Department of Energy has refused to carry out the law in this regard.

The Department of Energy has stated that domestic content requirements as required by the Atomic Energy Act could injure the DOE's competitive position with other international enrichment suppliers. It is our view that the proposed legislation solves the Department of Energy's problem.

If this legislation is passed, the Department of Energy's competitive enrichment position cannot be harmed since the domestic usage requirements proposed apply to all uranium used in the U.S. reactors regardless of the enrichment supply.

Indeed, we believe that the provisions of this legislation do not represent a new constraint on imported uranium, but, rather, update the existing law and are probably more moderate.

Further, in its proposed rulemaking, the Department of Energy accepts the obligation to repay $3.5 billion to the U.S. Treasury as repayment of enrichment debt. The utility industry has testified that this figure requires domestic utilities and ratepayers to pay higher enrichment costs than would be required if the Department of Energy had properly charged the DOD for its enrichment services, and excluded other charges not related to the commercial nuclear power industry.

We support the uitilities' view in this regard.

We also believe that the Department of Energy will be more competitive and less inclined to continue policies which injure the U.S. uranium producing industry for the benefit of enrichment revenues if this huge debt burden is relaxed. The proposed legislation resolves this issue, as well, on a fair and reasonable basis.

The Uranium Producers support the formation of a Government-owned Enrichment Services Corporation, and the requirement that an evaluation be made of the possibility of privatization of the enrichment plants and its technology, as outlined in the amendment.

My remaining comments are directed at those two sections of the Uranium Revitalization and Mill Tailings Reclamation Act directly impacting the domestic uranium industry.

First, the domestic content. This committee is already very familiar with the depressed state of the domestic uranium industry. In the last few years, about 90 percent of our miners have lost their jobs. Only three of our mills are operating.

A few years ago, our domestic industry produced about half of the free world's uranium. Now, we produce only a small part of what is used in the United States. Five years ago, New Mexico alone produced uranium at a rate approximately two times the current entire U.S. production level.

The Department of Energy and the Trade Representative contend that the major trouble in the U.S. uranium industry is the general slowdown of nuclear power growth in the United States. However, this contention is not supported by the statistics.

While U.S. production has dropped 75 percent over the past 5 years, non-U.S. production has approximately doubled. Five years ago, the United States produced twice as much uranium as Canada. United States production has now fallen to about one-third of the level of Canadian production. There is a general view that this turn of events is entirely due to low-cost Saskatchewan production. It is incorrect.

In the Elliott Lake uranium district of eastern Canada, uranium grades are generally low and production costs high as compared to uranium districts in the United States. Nevertheless, production from Canada's Elliott Lake increased from approximately 11.5 million pounds in 1980, to 13.5 million pounds in 1984. Meanwhile, U.S. production, at lower cost, has been abandoned.

It is clear to those of us deeply involved in U.S. uranium production that the primary reason for the depressed state of our industry is unfair trade practices and increasing imports of foreign uranium.

We believe that in a world market, where government ownership of production capacity and control of contracting policies is commonplace; and, in a domestic industry, where the U.S. Government holds a monopoly position in enrichment services; and, when the law already requires that a viable domestic industry be maintained by restricting uranium imports, the Government should recognize that the so-called level field for uranium trade simply does not exist.

The proposed legislation requires that the U.S. Trade Representative negotiate with the major foreign uranium producers for agreements which would provide for a domestic content of one-half of the uranium utilized in domestic reactors.

If these negotiations fail, there would be a requirement that 50 percent of the uranium loaded into a domestic reactor in any year between 1988 and the year 2000 be of domestic origin. Further, there is a grandfathering of existing contracts with overseas producers so that no current agreement should be affected by the usage requirement.

Because there are large inventories of both domestic and foreign uranium, it is anticipated that the impact of this requirement would be moderate. However, those utilities which have already contracted for more than 50 percent of their requirements from foreign sources of supply in any year would be required to purchase or provide domestic uranium to fill 100 percent of their incremental needs.

The concern has arisen that some domestic companies have sold uranium contracts, and then subcontracted the supply with foreign producers. We believe this legislation should be slightly modified to require that the domestic suppliers certify to their customers the quantities of foreign uranium remaining to be delivered under these contracts.

With respect to Uranium Mill Tailings Reclamation, when uranium is mined from near surface deposits, primarily in the Western States, only about 2 to 10 pounds of uranium is contained in the sandstone ore. The mill removes 95 percent of this natural uranium. However, the remaining crushed rock, which constitutes 99 percent of the ore mined, contains small quantities of uranium, radium, and thorium.

This material is deposited in a holding pond near the mill. It is the uranium mill tailings.

In 1983, EPA adopted very stringent and expensive regulations governing the reclamation of uranium mill tailings at the active sites. While we believe many aspects of these regulations are not cost-justified based on the insignificant health risks, compliance is required, and a fair sharing of the cost of reclamation is urgently needed.

When the great majority of these tailings were generated, they were not considered to pose a health danger, and no substantial reclamation costs were anticipated. As a result, the price charged by the producer for the uranium did not include amounts for expensive reclamation costs.

Only about 6 percent of the tailings were generated under contracts entered after the Uranium Mill Tailings Radiation Control Act was enacted at the end of 1978; far less than that was generated under contracts since the new regulations have been issued.

At the inactive sites, where the production went to the AEC largely for defense purposes, the costs of reclamation is shared 90 percent by the Federal Government and 10 percent by the State. The proposed legislation shares the cost of reclamation at the active sites among those who received the benefits of the production—the states where the sites are located, the producers, the Federal Government, which received about 30 percent of the production, and the nuclear utilities which received most of the remainder of the production.

The proposed legislation provides for the owner or licensee of an active site to perform the reclamation pursuant to the appropriate regulations. The cost of reclamation, up to a maximum amount of $5 per ton, will be reimbursed from the tailings fund. After considering the contributions by the States, the contributions to the fund or reclamation cost will be shared equally, one-third each by the Federal Government, the millowners and the utilities.

The cost of reclamation at a site over $5 a ton will be borne by the owner or the licensee of that site. The cost of reclamation of tailings generated in the future will be borne entirely by the producer.

The mill tailings reclamation legislation proposed last year was criticized by some because: One, the producers 'share of the cost was not equal to the share of the Federal Government and the utilities; two, the reclamation work was to be performed by the Department of Energy, rather than the owner of the site; three, the States where the sites were located and which received benefits of employment, capital investment, taxes, rentals and royalties did not share a part of the cost; and fourth, because the costs were described as too "open-ended."

Each of these issues has been addressed in the proposed amendments.

The owner of a site will always pay at least one-third of the cost of reclamation of its site up to $5 per ton. If the cost is greater than $5 per ton, the excess cost will be borne completely by the producer. The producer will bear 100 percent of the cost of tailings generated in the future.

The reclamation will be performed by the producer in accordance with the applicable regulations, rather than the Department of Energy. The DOE has estimated a substantial cost savings by this method.

The States in which the sites are located will make a substantial contribution. Recognizing Federal budgetary limits will place additional budget pressures on the States, the State contributions are spread out over time, and any excess in the fund will be first refunded to the States until their contributions are returned.

The fund is not open ended, except to some extent for the producers where reclamation costs are unusually high. The State contributions are limited to a fixed amount per ton of commercial tailings and have a reasonable possibility of being refunded.

The share of the Federal Government is capped at a maximum of $450 million, but will probably not reached that limit. This is generally in line with the share of the production it received. The utility share is fixed at $22 per kilogram of uranium loaded into domestic reactors during a specified 5-year period.

The Federal share of the tailings fund will come from the DOE uranium enrichment program. At the same time, the enrichment debt from the Department of Energy to the Treasury is deemed to be repaid by this contribution.

In summary, the Uranium Producers of America support the enactment of this comprehensive legislation, and believe that it will provide solutions to many of the problems facing the domestic uranium and enrichment industries, including problems with the DOE enrichment criteria, which it is seeking to solve through current rulemaking.

Thank you, very much, for this opportunity to present our testimony.

[The prepared statement of Mr. Luke follows:]

April 28, 1986

TESTIMONY OF ROBERT LUKE ON BEHALF OF THE URANIUM PRODUCERS OF AMERICA BEFORE THE SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT OF THE SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES

Introduction: The Need for Comprehensive Legislation

My name is Robert Luke. I am Executive Vice President of Quivira Mining Company and President of the Uranium Producers of America, a trade association comprised of a number of domestic uranium mining and milling companies. On behalf of UPA, I address here a proposed amendment to Senate Bill 1004, the Uranium Revitalization and Tailings Reclamation Act of 1986. Attached to my written testimony are the comments previously submitted by UPA to the Department of Energy as part of DOE's rulemaking proceeding on proposed changes in DOE's enrichment criteria.[1/]

We believe that the bill under consideration is the best single-package solution to the many problems facing all participants in the domestic uranium fuel cycle. Producers, utilities, and the Department of Energy are all linked in that cycle. For better or worse, they are to a great extent interdependent. In particular, domestic uranium producers are dependent on a healthy domestic enrichment and nuclear power program for their present and future markets.

We believe there are three central issues facing the United States with respect to the supply of natural and enriched uranium to fuel U.S. reactors. The first such issue is whether

---

1/ In the interest of brevity, not all the exhibits to UPA's comments have been included.

or not the United States will develop any national plan or policy with respect to uranium fuel supply for the domestic power program. Every other major industrial nation has established a program of uranium fuel supply for its home nuclear power industry. Only the United States, which has the largest nuclear power base in the industrialized world, now operating more than 100 reactors with an investment of approximately $300 billion, is without any definable national uranium supply policy.

For example, Canada requires that its state-owned utilities purchase all uranium requirements for 30 years into the future before allowing uranium exports. France, which has a limited supply of domestic uranium, utilizes its domestic production capacity first and relies secondly on government equity-owned production from producing nations around the world. The United Kingdom, Germany, Japan, Switzerland, Sweden, Taiwan, Korea and other nations without domestic uranium resources have all established specific targets for inventory, equity ownership of production, and long-term contract coverage of required natural and enriched uranium supply. Unlike the United States, all those nations have adopted concrete programs to assure a reliable long-term supply of nuclear fuel.

We believe that the United States plainly should follow the example of other nations, and adopt its own national policy regarding nuclear fuel supply. We also believe that such a policy can be formulated without undue interference with the private sector.

The second central issue facing the United States with respect to nuclear fuel is whether environmental and regulatory costs can be fairly and reasonably balanced against the value of continued domestic uranium production and processing. The uranium industry is now heavily burdened by new regulations requiring that very expensive reclamation of mill tailings be undertaken at mill sites which have been in operation for more than 30 years. Because our industry is already in genuine and serious economic distress, and most of the mills have been closed or placed on standby, it is simply impossible to pay these additional environmental costs from profits on current production. There is an urgent need to review environmental and regulatory requirements in light of the harsh realities of the industry's economic position.

The third central issue is whether an appropriate way can be found to strengthen the competitive posture of the United States enrichment industry. Strong uranium supply and enrichment industries go hand-in-hand. The United States can be competitive in the world nuclear fuel market over the long term only if the "entire front end" of the nuclear fuel cycle is vigorous and fully competitive with foreign industries.

UPA believes very strongly that the proposed legislation, as amended, addresses in a very positive and comprehensive manner all of these central issues affecting natural and enriched uranium supply in the United States. We support the enactment of this legislation.

I. Status of the Domestic Uranium Industry

Testimony before this and other Congressional committees has already shown unequivocally that the domestic uranium industry is in a state of collapse. From a peak employment of more than 22,000 employees in 1980, the industry has shrunk to less than 2,000 today. Only three of the nation's 25 uranium mills are still operating, and these only at reduced capacity. After several years of urging by the industry, the Department of Energy determined in September 1985 that the domestic industry was officially "non-viable" in 1984.

In its report accompanying DOE's non-viability determination, the Energy Information Administration found that imported uranium accounted for one-quarter to one-half of U.S. requirements in 1982-84, and that the import share of the market will increase to 70 percent by the early 1990's.2/

II. Causes of the Problem

There are two major contributing factors to the collapse of the domestic uranium industry. One is U.S. government enrichment policies. Another is the rising tide of imported uranium.

A. Government Enrichment Policies

Nuclear fuel is a combination of enrichment services and uranium. The U.S. government, first through the Atomic Energy

---

2/ EIA, Domestic Uranium Mining and Milling Industry, 1984 Viability Assessment at xvi-xvii (Sept. 1985).

Commission and then, through its successors, ERDA and DOE, is the exclusive domestic source of uranium enrichment. U.S. government enrichment policies undeniably have a profound impact on the demand for, and the price of, uranium. DOE exercises monopoly power with respect to the domestic uranium industry through its control over enrichment.

During the 1970's, the Atomic Energy Commission and its successors projected a rapid expansion in nuclear generating capacity,[3/] and followed policies which encouraged development of foreign enrichment facilities.[4/] Those policies also required the utility industry to contract for enrichment services far in advance of need.[5/] This forced utilities to contract for raw uranium well in advance of the time it was needed. When installed nuclear capacity grew much more slowly than expected, a glut of stockpiled uranium and enriched uranium built up.

[3/] See Uranium Enrichment: Heading for the Abyss, 221 Science 730, 731 (1983).

[4/] In particular, the AEC "closed the order books" in 1975 on new enrichment contracts for foreign utilities. This spurred development of foreign enrichment facilities. See Radical Surgery In Uranium Enrichment, 228 Science 1407 (June 21, 1985); Uranium Enrichment Policy, Hearing before the Energy Research and Development Subcommittee of the Senate Energy and Natural Resources Committee, 95th Cong. 2d Sess. 43 (1978).

[5/] AEC, for example, adopted the so-called long term fixed commitment contract for enrichment purposes. See generally Proposed Changes in AEC Contract Arrangements for Uranium Enriching Services, Hearings before the Energy Subcommittee of the Joint Committee on Atomic Energy, 93d Cong., 1st Sess. (1973).

This glut has had an obvious depressing effect on domestic uranium production. The stockpile and competition from new foreign enrichers also has put pressure on DOE to revise its enrichment policies. In response, DOE issued a new generic enrichment contract in early 1984. This standard-form contract, which was worked out with DOE's utility customers, was prepared and issued without the participation of the domestic uranium producing industry and without the prior congressional review required under the Atomic Energy Act.[6/] The contract contains a number of features which further reduce demand for uranium.[7/] Outside experts have in fact estimated that DOE's 1984 enrichment contract will decrease the demand for uranium by 50 to 100 million pounds over the next 5 to 10 years.[8/] This is a death knell for many domestic producers, and several have already closed since DOE adopted its new policies. Even more recently, responding to litigation challenging the new contracts, DOE has proposed new enrichment criteria that still do not significantly alter its underlying enrichment policies. Indeed, the proposed criteria would validate the terms of all existing enrichment contracts, even those held to be void in September 1985 by a federal district court in Colorado.

6/ See Affidavit of Larry A. Boggs, attached as Exhibit A.

7/ Some of these features are discussed in Letter, Mr. Stevens to Mr. Hodel, January 10, 1984, attached to Boggs Affidavit.

8/ See, e.g., Nuclear Resources International, DOE Enrichment Policies and the U.S. Uranium Industry (Sept. 1984).

While the domestic uranium industry of course recognizes the need for DOE to revise its enrichment policies, the revision should have -- and readily could have -- been done in a fashion less harmful to an already rapidly deteriorating domestic producing industry.

B. Imports

An even more significant problem has been the rapid increase in the importation of foreign uranium. Approximately 50 to 60 percent of these imports are from Canada. Almost all the remainder are from South Africa. I will focus first on Canada. While it is true that ore grades in Saskatchewan are attractive, the U.S. industry generally is capable of competing vigorously with Canada's producers. The flood of Canadian imports arises not from a competitive advantage enjoyed by the Canadians generally, but from heavy government subsidies and supports for the Canadian uranium industry. Let me describe this in some detail. Major portions of the Canadian uranium industry are government-owned.[9] Canada has heavily subsidized its uranium industry in amounts totalling more than a billion dollars.[10]

---

[9] Eldorado Nuclear Limited has long been owned by the Canadian government. The Province of Saskatchewan owns the Saskatchewan Mining Development Corporation (SMDC). Government-owned Canadian companies are major participants in virtually all Canadian uranium projects. The remainder are financed in large part by the Province of Ontario through Ontario Hydro.

[10] Eldorado in recent years has received an approximately $300,000,000 in uranium from the Canadian government stockpile in return for stock. A $100,000,000 loan to an Eldorado subsidiary was forgiven and a gain of roughly $25,000,000 was realized. See

[Footnote continued]

To make matters worse, Canadian uranium is being offered on the U.S. market at prices far below the price at which it is sold on the Canadian home market and, we believe, to other countries as well. For example, the principal Canadian nuclear utility was paying more than $60 per pound for uranium last year,[11] while Canadian uranium was being sold, and offered for sale, in the U.S. in the $15-18 range.[12] This would appear to be a prima facie case of "dumping" -- a practice which is unlawful under U.S. trade law and under GATT. The unfairness of the situation is further compounded by tax benefits granted to, and direct government participation in, the nuclear utility business in Canada.

The Canadian government provides additional support to its producers through market allocations and exclusion of U.S. producers. In particular, Canada imposes a 100% domestic-content requirement for fuel used by its nuclear utilities. In

---

[Footnote continued]

Eldorado's 1981 Annual Report at 2 and 25. The Province of Saskatchewan has provided approximately $250,000,000 in equity advances to SMDC and has also provided or guaranteed certain long-term debts of SMDC. SMDC 1983 Annual Report. Ontario Hydro (owned by the Province of Ontario) has advanced Denison and other Canadian uranium producers in excess of $600,000,000. _See_, e.g., Wall St. J.. Oct. 8, 1981 ($600,000,000 interest free loan to Denison and Rio Algom): Nuclear Fuel, Jan. 4, 1982 ($600,000,000 plus); Nuclear Fuel, March 28, 1983 ($600,000,000 at one project).

[11] _See_, _e.g._, Nuclear Fuel, July 1, 1985 at p. 2, Nuclear Fuel, _June 18_, 1984, at pp. 4-5. The price paid by Ontario Hydro is actually $10.00 to $20.00 higher than reported in Nuclear Fuel because Ontario Hydro is also "recovering" its heavy cash advances as it takes delivery of its uranium.

[12] _See_ Exhibit B.

addition, Canada imposes an "upgrade-before-export" requirement prior to authorizing export licenses, and closely supervises and coordinates domestic production and export activities. U.S. producers cannot compete against this kind of government-orchestrated and subsidized "competition."

The situation with respect to South Africa is equally a problem. The bulk of the South African production comes either from Namibia or as a coproduct of the country's gold-mining operations. South Africa allocates virtually all its costs to gold production, leaving it free to sell its uranium at low prices. The uranium content in the gold ore is relatively very low and the ore is located at such a depth that, if the true costs were applied, it would be uneconomic to mine. Moreover, to assure the industry's protection, South Africa markets, prices, and allocates its uranium through a government corporation, Nufcor.

Our uranium mines and mills cannot be kept on suspended status indefinitely. First, the costs of inactivity are very high, and those costs are a total loss when no uranium is being produced. Second, federal and state reclamation laws will eventually be applied. Mills will be decommissioned and licenses terminated. Mines will be flooded. Once mines are flooded, it is dangerous, expensive, and in many cases impossible to recover any reserves remaining in those mines. Within a few years, this nation risks the loss of its domestic uranium capacity.

The loss of a viable domestic uranium industry should be an important matter of concern. Some 20,000 jobs are threatened.

The miners, their families and the small Western communities in which they live will all suffer. This is particularly alarming and unfair when it is caused by unfair foreign practices and ill-considered policies in DOE's enrichment program. In addition, broad interests of national security and energy independence are also involved. Dependable and assured energy supplies are fundamental to our economy and our national security. The United States depends on nuclear energy for some 14 percent of its electrical energy needs. The percentage is much higher in many of our states, including those of New England. Moreover, the percentage is increasing, and will continue to increase at least through the turn of the century, when it will reach 20 percent or more.

A secure and reliable source of nuclear fuel is essential to supply our nation's needed electrical energy. Dependency on foreign sources of supply places us continually at risk. Some foreign sources, such as South Africa and Namibia, are in politically unstable regions of the world.[13/] DOE has in the past acknowledged that foreign production is subject to embargoes and cartel pricing.[14/] This is not a hypothetical threat. Canada actually

---

[13/] In the words of Robert Rich, until recently the nuclear fuel manager for the Yankee utilities,

> "When one considers that well over half of the western world's uranium resources are in areas that have been commonly characterized as politically unstable, there's a large potential for market disruption by political events." Nuclear Fuel, Feb. 11, 1985, at p. 8.

[14/] DOE, The Domestic Uranium Industry and Imports of Uranium 36-37 (Feb. 23, 1981).

embargoed export contracts at one point in the 1970's.[15/] Congress has already investigated evidence of a foreign uranium cartel sponsored by foreign governments in the 1970's.[16/] Australia flirts with cutting off uranium production.[17/] In these circumstances, it is clearly ill-advised to develop a dependency, and especially the heavy dependency to which we are headed, on foreign sources of supply.

Congress in the past has recognized that the nuclear fuel cycle must be viewed as a whole, of which the uranium production component is an integral and vital part.[18/] This recognition is obviously proper. If the nation loses its domestic uranium production capacity, the nuclear energy industry is a house without a foundation.

III. The Uranium Revitalization and Tailings Reclamation Act Will Allow the Domestic Industry to Become Viable Once Again.

Section 161(v)(B) of the Atomic Energy Act requires the United States to maintain a viable domestic uranium industry.

[15/] Nuclear Fuel, July 11, 1977, p. 9; August 8, 1977, p. 1: January 9, 1978, p. 1.

[16/] *See* Hearings before the Subcommittee on Oversight and Investigation of H. Comm. on Interstate and Foreign Commerce (1976-78) ("Moss Hearings").

[17/] Nuclear Fuel, July 30, 1984, p. 11.

[18/] In the words of the Joint Committee on Atomic Energy,

> "the maintenance of a viable domestic uranium industry is an integral part of a sound nuclear industry..." 1964 U.S. Code Cong. & Admin. News 3132.

[Footnote continued]

Congress recognized that maintenance of a viable producing industry was an important element of national policy.[19/] Nonetheless, the Secretary of Energy formally acknowledged that the domestic uranium industry was not viable on September 26, 1985. Since then, little positive action has been undertaken by DOE to assist the producers, and nothing is planned for the future.

The Atomic Energy Act provides that the DOE must restrict enrichment of foreign-source uranium for use in domestic reactors to the extent necessary to assure a viable uranium industry. Until the mid-1970's, DOE satisfied Section 161(v) by requiring 100 percent of the uranium enriched in the DOE facilities for domestic use to be of domestic origin. Today, however, DOE refuses to recognize the requirements of Section 161(v). Although the Secretary of Energy has determined that the industry is not viable, DOE argues that the reimposition of domestic uranium requirements will cause American utilities to go overseas for all

---

[Footnote continued]

The Joint Committee also noted that assurance of a viable domestic uranium industry is

> "in the national interest since this industry is related to our national defense and security." Id. 3121.

[19/] See e.g., Proposed Modification of Restrictions on Foreign Uranium for Domestic Use, Hearings for Jt. Comm. on Atomic Energy, 93rd Cong. 2nd Sess. 1974, at 6 (Commissioner Anders: "Should there by any indication that the proposed schedule is endangering U.S. self-sufficiency, or our national security, the Commission will reimpose restrictions . . .") and at 8 (AEC may "preclude licenses for the import of source material").

their enrichment needs. DOE asserts that imposing restrictions under Section 161(v) would also hurt its own enrichment business.

We believe that these claims are both unfounded and irrelevant to the legal requirements imposed by Section 161(v). Most utilities recognize that viable domestic producing and enrichment industries are important to their ratepayers. In any event, Section 161(v) does not allow the DOE to determine whether to impose enrichment restrictions on the basis of the possible effect of such restrictions on DOE's own enrichment program. To the contrary, the law requires DOE to look to the effect on the viability of the domestic producing industry. The producers believe that action pursuant to Section 161(v) to restore the viability of the domestic industry would require restricting the enrichment of foreign-source uranium well in excess of 50 percent.

The proposed legislation addresses these issues in a comprehensive manner. The provisions of Section 161(v) will be suspended until 2001. The U.S. Trade Representative will negotiate with the major foreign producers for agreements which will provide for domestic content of half of our usage. This will clearly inform our trading partners that restrictions on imports will be imposed only as a last resort to revive a dying industry.

If these negotiations fail, there will be a requirement that 50 percent of the uranium loaded in a domestic reactor in a particular year be of domestic origin. There is grandfathering of existing contracts to avoid inequities. This approach is a responsible and fair answer to the unfair practices followed by foreign governments of supporting their production at the expense of ours. DOE's position that import restrictions would not aid the domestic industry is unfounded. DOE's own projections forecast requirements of approximately 40 million pounds of uranium per year. Imposition of restrictions would guarantee domestic producers at least half of this requirement, compared to current projections of less than 10 million pounds of domestic production per year. There is sufficient domestic capacity on standby status to meet the increased need.

The legislation will encourage domestic production while existing inventories are used up. By the end of the period of required domestic content, the market should be sufficiently large to assure the viability of our domestic industry.

The domestic producers are willing to support legislation suspending the requirements of Section 161(v) because the proposed legislation addresses other issues that will revitalize the industry and because DOE to date has avoided enforcement of Section 161(v) on the basis of its belief that its own enrichment business will be hurt. Only prompt action to address the problem of ever-increasing low-priced imports will prevent further damage to the domestic industry and loss of valuable uranium reserves.

IV. The Act Will Equitably Apportion the Cost of Tailings Reclamation Among Government, Utilities, and Producers.

The need for the reclamation aspects of this legislation arose because recent EPA regulations will require expensive reclamation of uranium mill tailings largely generated years before the adoption of the EPA regulations. Since no substantive reclamation costs were anticipated when the tailings were generated, the price charged by the producer did not include these very substantial costs.

The proposed funding method allocates the costs of reclamation among those who benefitted from the uranium produced at the active sites. The owners of active sites, the nuclear utilities, the Federal Government and the states in which active mills are located, will each contribute to a fund which reimburses the owner or licensee for the cost of reclamation up to a limit of $5.00 per ton. This formula provides, approximately, for an equal one-third sharing by the owners or licensees of active uranium mills, the Federal Government, and the owners or licensees of civilian nuclear power reactors, after deduction of sharing by the states. This funding method reflects an equitable allocation of these reclamation costs, and ensures that there will be sufficient funds to meet required reimbursements up to the $5.00 per ton limit.

UPA has testified in support of Senate Bill 1004 in its earlier version as the proposed Uranium Mill Tailings Reclamation Act of 1985. Objections to that bill included claims that --

(i) the domestic producers did not undertake a large enough share of the cost of reclamation;

(ii) the reclamation was to be performed by DOE, which would be more expensive than if performed by the owner or licensee;

(iii) the states in which the actual sites are located received substantial benefits, and should share in the cost; and

(iv) the payment for reclamation was too "open-ended."

The proposed Uranium Revitalization and Tailings Reclamation Act of 1986 answers each of these objections.

The owners or licensees of active sites have undertaken an approximately equal sharing of the cost of tailings reclamation with the Federal Government and commercial owners of nuclear reactors. In no event will the active site owners' contribution to the reclamation cost be less than one-third of the costs of reclamation and other remedial action. A $5.00 per ton of tailings limitation has been placed in the legislation, any excess cost being the sole responsibility of the owner of the active site. Because of the $5.00 per ton limit on reimbursement from the fund, the operator of a site which requires unusually expensive reclamation will bear any additional cost. Further, the owner or licensee is responsible for all of the reclamation costs for tailings generated in the future.

The Act provides that the reclamation work will be performed by the owner or licensee of the active sites in accordance with applicable standards. While DOE performs the reclamation work at the inactive sites, DOE has estimated that it will be substantially less expensive if the owner or licensee performs the work at an active site. DOE estimated the cost savings at about 40 percent.

The cost of reclamation at the inactive sites is shared 90 percent by the federal government and 10 percent by the state under the provisions of UMTRCA passed by Congress in 1978. The 1985 version of S. 1004 did not provide for cost sharing by the states. It was objected that, since the states in which the active sites were located had received benefits in employment, taxes, and in some cases, rentals and royalties, those states should share in the cost of reclamation. The Act now provides for state contributions to the fund. Recognizing that present budgetary constraints will generally lessen federal support of state programs, the Act provides that any excess in the fund will first go toward reimbursing the states for their contribution.

There was criticism of S. 1004 because there was no cap to the amount of reclamation that would be funded. The $5.00 per ton limit per site on the amount of reimbursement solves this problem. Since the reimbursement is only for existing tailings, the maximum amount for which reimbursement will be made is known in advance. Since the $5.00 per ton limit operates on a site-per-site basis and since reclamation costs at a number of sites are estimated to be less than the limit, the reclamation reimbursed by the fund will probably be less than the total potential maximum. There are also caps for the individual contributors to the fund. The states' contributions are capped on a per-ton basis, the utility users' contributions will be subject to a per-kilogram cap of uranium loaded in reactors during a five-year period, the Federal Government will be subject to a dollar cap, and the uranium producers subject to a cap of one-third of the cost of reclamation up to $5.00 per ton plus 100 percent of the cost over $5.00 per ton.

The tripartite division of primary funding responsibilities among the Federal Government, owners and licensees of active sites, and owners and operators of civilian nuclear power reactors is both equitable and historically justified. I want now to describe in greater detail both the mechanism and the reasons for this allocation.

A.

The Federal Government's contribution to the Uranium Mill Tailings Fund would be limited to $350,000,000. This is in accordance with the 1979 General Accounting Office report to Congress, which concluded:

> "GAO recommends that the Congress provide assistance to active mill owners to share in the cost of cleaning up that portion of the tailings which were produced under federal contract."

Exhibit C to my written testimony shows the quantities tailings at the active sites generated under AEC contracts.

Under the bill, the contributions authorized by the Federal Government will be derived from DOE Uranium Enrichment Program revenues. Those contributions will be in lieu of appropriations from the Treasury and will represent 100 percent of the total debt or unrecovered investment that the Enrichment Program is required to repay the Treasury. The contribution will be deemed to fully and completely repay the Treasury for 100 percent of any and all debt or unrecovered investment the DOE Enrichment Program has incurred prior to fiscal year 1986.

The DOE has determined the unrecovered cost associated with enrichment services to be $7.522 billion.[20/] It proposes to reduce this amount by $4.065 billion as the "equivalent of writing off plant capacity that will not be used in current or future enrichment operations." The remaining $3.457 billion is currently proposed to be repaid from charges to the DOE's utility consumers.[21/]

The Uranium Revitalization And Tailings Reclamation Act of 1986 would reduce the utility customers' repayment by nearly 90 percent, from $3.457 billion over and above operating costs to only $350 million. This vast reduction of the enrichment debt would have a positive effect on utility generating costs. The reduction and repayment of the DOE enrichment debt will also strengthen the DOE enrichment program. DOE or any successor commercial enrichment venture will be in a much better position to compete with foreign enrichment services with the debt issue resolved.

B.

One-third of the reclamation cost up to the $5.00 per ton limit at each active site is to be paid by the owner or

---

[20/] The utilities, of course, believe that this figure does not reflect costs attributable to the Defense Department's benefits derived from enrichment services performed on its behalf. When the costs of enrichment service provided by DOE for Defense Department use are taken into account, the "public" enrichment debt is estimated to be approximately 350 million dollars.

[21/] *See* the Federal Register of January 29, 1986, p. 3629.

licensee. This is substantially more than the proportion of tailings that the active sites generated under contracts entered after the enactment of the Uranium Mill Tailings Reclamation Control Act of 1978. Exhibit D to my written testimony shows that the proportion of tailings generated under post-1978 contracts is about 6 percent. Increasing the owners' or licensees' share to one-third is responsive to claims by opponents to the 1985 version of Senate Bill 1004 that the owners or licensees are not paying for tailings generated for foreign sales of uranium concentrates. Increasing the share of the owners and licensees also provides an incentive to control the costs of reclamation activities.

C.

An additional one-third contribution to the Tailings Fund will be produced by a fee of $22.00 per kilogram of uranium contained in fuel assemblies initially loaded into each civilian nuclear power reactor during each of the calendar years 1989 through 1993. This fee should generate approximately $300,000,000 for the Fund.

The contribution by the nuclear utilities is limited in duration, and costs over the $5.00 per ton limit are the sole responsibility of the owner or licensee of the active sites. The overall effect of this Act will be to reduce, not increase, the electrical costs of ratepayers because of the vast reduction in the utilities' obligation to repay the DOE enrichment debt.

D.

The proposed Act provides that the states containing active sites would each contribute $0.50 for each dry ton of tailings of uranium which was processed for commercial sales prior to the effective date of the Act. The total amount of these contributions would approximate the 10 percent contribution of the states in which inactive sites are located. The states have a strong and definable interest in having the active sites reclaimed. The states have benefitted from the operations which produced the tailings by tax revenues and the jobs provided to their citizens. Because federal budgetary limits will place additional budget pressures on the states, the state contributions are spread out over time, and any excess in the fund will first be refunded to the states up to the amount of their contributions.

* * *

Equitable sharing of reclamation costs has been opposed as a "bail-out" of the domestic producing industry. This implies that the uranium producers are solely responsible for the uranium mill tailings, which is simply not the case. If the Federal Government had not determined to bring private industry into the business of finding and producing uranium, the tailings covered by this legislation would never have been generated.

One of the Atomic Energy Commission's duties was to promote the peaceful utilization of atomic energy. Thus, it actively fostered the creation of a commercial nuclear power industry. As the federal government's uranium procurement program was reduced in scope, companies were still encouraged by the AEC to enter the milling business by the prospect of future sales to the commercial industry. Many of the uranium producers made the decision to continue operations after the termination of the AEC procurement program in the expectation that a commercial nuclear power industry would develop and become the nation's primary source of electricity because it would be clean and inexpensive. This progressive industry would need uranium to fuel it, and the AEC expected private industry to meet that need. Although the generation of tailings could have ended in the 1960's, it has continued to the present primarily because of the Federal Government's role in promoting the creation of and encouraging private industry's participation in a commercial nuclear power industry.

In a free enterprise system, a producer prices his product so as to cover the cost of doing business. When the uranium producers priced their product for sale to the federal government and later to the utility companies, their cost of doing business did not include tailings reclamation. Not until the late 1970's did it become apparent that significant tailings reclamation requirements might be imposed. By that time, the industry was losing its viability and no new long-term sales contracts were being executed. Thus, the uranium producers have had no opportunity in the last thirty years to price their product so as to prepare for the tremendous reclamation costs they will soon be required to pay. Even if the producers had set aside all of their profits and could now use such funds to finance tailings reclamation, it is doubtful that they would be enough to cover the costs. Since these costs would have been shared by the Federal Government and utilities if reclamation requirements had been imposed at the beginning, it is only fair that they should all help to pay them now.

The equitable sharing of costs created by the recent implementation of extensive and expensive reclamation requirements for tailings at our mills is a key ingredient for the revival of the domestic uranium industry. Unless we obtain some relief from foreign imports and unforeseen reclamation costs, our once thriving industry will practically vanish. Valuable ore reserves will be lost. Once there is virtually no domestic industry to compete with foreign interests, the price for uranium and the cost of nuclear generated electricity is certain to escalate. Even worse, a serious blow will have been struck against our national security interests and the goal of energy independence. The national interest demands prompt passage of the proposed bill.

EXHIBIT A

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO

WESTERN NUCLEAR, INC., et al.,)
Plaintiffs,)
)
v.) C. A. No. 84C-2310
)
F. CLARK HUFFMAN, et al.,)
Defendants.)

AFFIDAVIT OF LARRY A. BOGGS

I, Larry A. Boggs, being duly sworn, depose and say:

1. My name is Larry A. Boggs. Since 1980, I have been Senior Counsel at the American Mining Congress (AMC). AMC is a national trade association that includes most of the companies involved in this country's uranium mining and milling industry. AMC's offices are located at 1920 N Street, N.W., Suite 300, Washington, D.C. 20036. In my capacity as Senior Counsel, I keep abreast of issues relating to uranium viability and impact of policies of the Department of Energy (DOE) upon the uranium industry. At AMC, I am responsible for legal advice and related staff work for AMC's Uranium Policy Council and other AMC committees dealing with uranium issues. These committees include the Uranium Viability Subcommittee. I have been requested to make this affidavit by Plaintiffs in the above-captioned litigation.

2. Natural uranium must be enriched in the isotope U-235 to burn in U. S. nuclear power reactors. Nuclear fuel, as used in U. S. nuclear power reactors, is thus comprised of uranium and enrichment services. DOE is the exclusive domestic supplier of enrichment services. DOE policies with respect to the provision of enrichment services can have and do have a significant impact on demand for uranium and, consequently, the viability of the domestic uranium industry. For example, independent consultants (*e.g.*, Nuexco and Nuclear Resources International) indicate that DOE's new enrichment services contract may diminish demand for uranium by as much as 100,000,000 pounds or more over the next five to ten years. This approximates or exceeds expected production for the period.

3. AMC believes that the domestic uranium mining and milling industry is not viable. AMC has recently testified before Congress that 17,000 of the uranium industry's workers -- 77 percent of the domestic work force -- have been laid off, and more layoffs are expected. Most uranium mines and mills have shut down. Those operating are operating on a curtailed basis. In the meantime, as AMC has explained, importation and commitments for future imports of foreign-source uranium have increased dramatically. Colorado Nuclear Corporation (an independent consulting firm which developed the computer model employed by DOE to forecast the uranium industry) in a report

prepared for AMC critiquing DOE projections indicates that, contrary to DOE's projections, the domestic uranium industry will continue to decline through the year 2000. AMC's own in-house estimates, submitted most recently to Secretary of Energy Hodel in a letter dated December 28, 1984 (attached), indicate that there will likely be only three uranium mills in the United States as of 1990.

4. On or about January 18, 1984, DOE issued a new generic enrichment contract, known as the Utility Services or US enrichment contract. DOE did not, to my knowledge, submit the new contract, or the basic terms and conditions which it embodies, in proposed form for review by pertinent Congressional committees as provided by section 161(v) of the Atomic Energy Act. DOE did not make the new contract, or the basic terms and conditions which it embodies, available for notice-and-comment rulemaking as provided in section 501 of the Department of Energy Organizatic Act. For example, the new contract, or its basic terms and conditions, in either proposed or final form were not published in the Federal Register.

5. DOE did not afford the domestic uranium industry an opportunity to meaningfully participate in the formulation of the new contract or the policies that it embodies. Comments were requested only from DOE's customers (i.e., nuclear utilities). AMC, upon finding out that DOE intended to issue a new contract,

obtained meetings on December 5 and 28, 1983 with DOE officials to attempt to ascertain DOE's plans. In response, DOE provided a draft contract to AMC for distribution to AMC's member companies, which was not received by AMC until January 3, 1984. By letter dated January 10, 1984 (attached), AMC requested a meeting on or about January 31, 1984 to provide comments on the contract and policies embodied therein. The letter noted that

> "Although our evaluation is necessarily tentative because of the limited time allowed for our consideration, we perceive the potential for damage to our industry in several areas."

The contract was issued on January 18, 1984 before AMC had an opportunity to provide any comments.

Larry A. Boggs
Larry A. Boggs

I, Larry A. Boggs, being duly sworn, hereby swear and attest that I am Senior Counsel at the American Mining Congress, that I have read the foregoing affidavit, and that it is true and correct to the best of my knowledge and belief.

Larry A. Boggs
Larry A. Boggs

Subscribed and sworn to before me this 7th day of January, 1985.

Margaret A. [illegible]
Notary Public

My Commission Expires: My Commission Expires January 31, 1989

EXHIBIT B

1984 URANIUM IMPORTS
December 1984

Quantity (lbs) Imported Under Contracts
To Date in 1984

COMPANY	POUNDS	PRICE/lb.
Eldorado Resources	650,000	$20.05
Eldorado Resources	750,000#	15.46
SMDC	200,000#	18.00
SMDC	1,000,000*	unknown
Uranerz	110,000*	24.00
AGIP	70,000*	24.26
AGIP	42,000	15.84
Rio Algom	1,500,000*	unknown
Uranerz	400,000	24.00
AGIP	700,000#	unknown
Uranerz	300,000#	18.50
AGIP	1,600,000*	16.00
Uranerz	100,000	22.00
SMDC	100,000#	unknown
Eldorado Resources	500,000#	unknown
Uranerz	250,000	24.00
AGIP	238,000	unknown
SMDC	400,000*	15.68
Uranerz	60,000#	20.00
Total	150,000	21.00
Nufcor	1,000,000*	unknown
AGIP	51,000	unknown
Uranerz	500,000	24.00
TOTAL	12,797,000	

Definition

Eldorado Resources (Canadian Government Corporation)

SMDC - Saskatchewan Mining Development Corporation (Province of Saskatchewan Corporation; Canada)

Uranerz - Uranerz Exploration & Mining, Ltd. (Canada)

AGIP -Italian Government Mining Corporation

Nufcor - South African Government Marketing Corporation

* Denotes long-term uranium supply contract. Signed during 1984.

Source: NUEXCO, December 6, 1984

EXHIBIT C

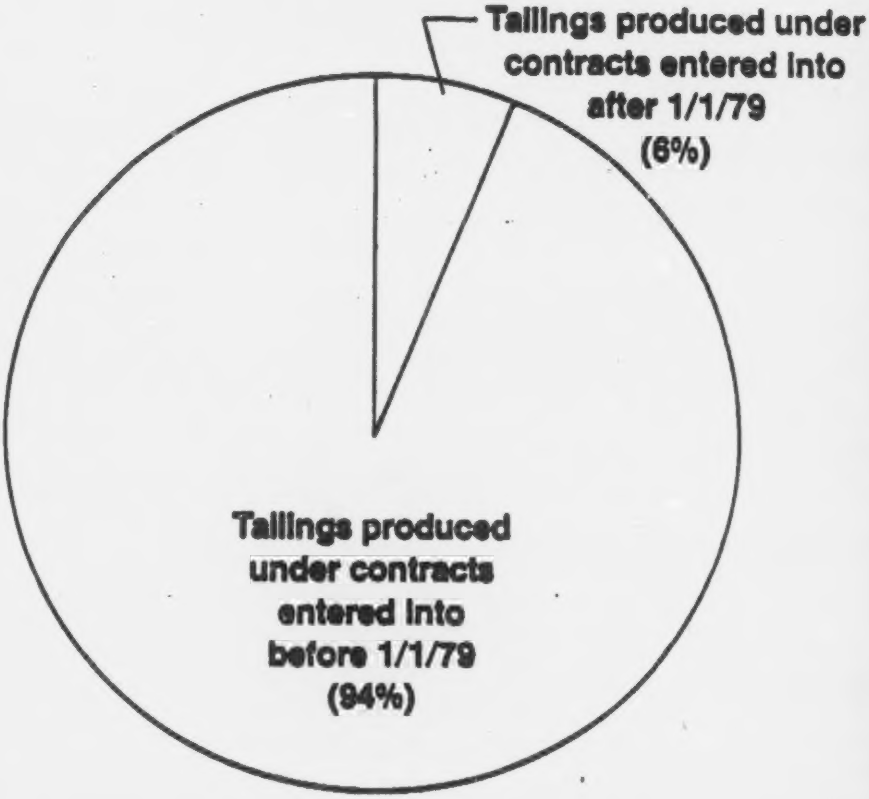
TAILINGS AT LICENSED MILLS

MILL	TAILINGS (10^6 TONS)		
	AEC	COMMERCIAL	TOTAL
Cotter - Canon City	.3	1.9	2.2
UMETCO - Uravan	5.7	4.6	10.3
Sohio - Seboyeta	-	2.1	2.1
UNC - Churchrock	-	3.5	3.5
Anaconda - Bluewater	8.8	14.8	23.6
Kerr-McGee - Ambrosia Lake	10.0	23.0	33.0
Homestake - Milan	11.4	10.4	21.8
TVA - Edgemont	1.6	0.4	2.0
Conoco - Falls City	-	8.8	8.8
Chevron - Panna Maria	-	4.6	4.6
Exxon - Ray Point	-	0.4	0.4
Rio Algom	-	3.0	3.0
Atlas - Moab	5.9	4.6	10.5
Dawn - Ford	1.2	1.8	3.0
Western Nuclear - Wellpinit	-	2.9	2.9
Federal American - Gas Hills	2.1	3.8	5.9
Pathfinder - Gas Hills	2.8	6.7	9.5
Western Nuclear - Jeffrey City	3.3	4.4	7.7
UMETCO - Gas Hills	2.1	7.1	9.2
Exxon - Powder River	-	7.2	7.2
Rocky Mtn. Energy - Powder R.	-	5.0	5.0
Pathfinder - Shirley Basin	-	5.8	5.8
Petrotomics - Shirley Basin	.7	4.8	5.5
Energy Fuels - Blanding	-	1.5	1.5
Minerals Exploration - Red Desert	-	1.0	1.0
TOTALS	56.0	134.8	190.8

Percentage of commercial tailings at all sites: Approximately 70%

EXHIBIT D

ACTIVE SITES URANIUM MILL TAILINGS PRODUCED UNDER CONTRACTS ENTERED INTO AFTER ENACTMENT OF URANIUM MILL TAILINGS RADIATION CONTROL ACT OF 1978 (as of July 1985)



Source: UPA Survey of U.S. uranium producers (July 1985).

APPENDIX

COMMENTS ON PROPOSED URANIUM ENRICHMENT SERVICES CRITERIA

Comments of the Uranium Producers of America

Uranium Producers of America
1201 Pennsylvania Avenue, N.W.
P.O. Box 7566
Washington, D.C. 20044

February 28, 1986

TABLE OF CONTENTS

Page

Introduction 1

I. The Maintenance of A Viable Domestic Uranium Industry Depends Heavily on DOE's Role In Regulating the Nuclear Fuel Cycle ... 2

II. DOE's Failure to Include an Enrichment Limitation Is Unlawful and Unsupported 5

   1. DOE misreads the statute. 8

   2. Imposition of an enrichment limitation would assist the domestic uranium industry 12

   3. DOE bears a heavy responsibility for the current condition of the domestic uranium industry 21

   4. Implementation of Section 161(v) is appropriate to address unfair trade by foreign uranium exporters. 23

III. The Proposed Criteria Fail To Delineate Policies Relating to the Federal Uranium Stockpile 29

IV. The Proposed Enrichment Criteria Are Unlawful in Other Respects As Well 31

V. Several of DOE's Specific Regulatory Findings Are Unsupported and In Error 32

Conclusion 34

Appendix A .... Testimony of Edward Farley

Appendix B .... Letter of the Comptroller General

COMMENTS ON PROPOSED URANIUM ENRICHMENT SERVICES CRITERIA

Comments of the Uranium Producers of America

Introduction

The Uranium Producers of America ("UPA") is a coalition of the major remaining domestic uranium producers. UPA believes that the Department of Energy's proposed enrichment criteria represent a continuation of misguided policies apparently intended solely to perpetuate and promote DOE's enrichment enterprise without regard to the effects of those policies on the domestic uranium industry, already acknowledged by DOE to be "non-viable."

The criteria fail to implement the requirements of Section 161(v) of the Atomic Energy Act ("AEA") to restrict the enrichment of foreign-source uranium to the extent necessary to assure a viable domestic industry. This is the single most injurious feature of DOE's proposed rules, and the subject of the bulk of UPA's comments. However, the proposed criteria are legally deficient in other respects as well. Even aside from the proposed rules' legal deficiencies, however, they do nothing to address what should be DOE's primary concern -- the restoration to viability of the domestic industry in order to promote vital national security concerns and the attainment of the goal of national energy independence.

I. The Maintenance of A Viable Domestic Uranium Depends Heavily on DOE's Role In Regulating the Nuclear Fuel Cycle.

U.S. nuclear power plants produced a record 380 billion KWH of electrical energy in 1985, over 15 percent of all electricity generated in the nation. In 1986 the country's 100th reactor will be licensed and on line. By the mid-nineties, nuclear plants will contribute over 20 percent of all the U.S. electricity generated. Civilian nuclear energy clearly has a key role to play in assuring the Nation's energy security and strength.

The criteria list as DOE objectives "the peaceful use of atomic energy throughout the world, the encouragement of scientific and industrial progress, and the development of a healthy atomic energy industry, including the mining and milling of uranium." 51 Fed. Reg. 3624-25, emphasis added. While UPA applauds these objectives, UPA cannot agree that DOE's proposed criteria in any way contribute to the development of a healthy "front end" of the fuel cycle: the exploration, mining, milling and conversion of the natural uranium fed to DOE's enrichment facilities.

A truly healthy domestic nuclear industry requires a certain degree of self sufficiency, from the discovery of the uranium ore to the disposal of the spent fuel wastes, and all segments of the industry, including exploration, mining, milling, conversion, enrichment, fuel fabrication, power generation and waste disposal, must be healthy for the industry as a whole to be healthy.

A healthy atomic energy industry also requires that the front end prior to enrichment be viable, at least as viable as the enrichment enterprise. It was not viable in 1984, as the Secretary of Energy determined last September; it was not viable in 1985, as EIA's current studies will soon reveal; and it is not viable today, nor will it somehow become viable in the future without implementation of new policies.

DOE has a responsibility, indeed a mandate under the AEA, to maintain the health of the nuclear industry. It has purview over most, if not all, portions of the fuel cycle, directly or indirectly. DOE, through its enrichment policy, effectively determines the real demand for uranium. The purchase and delivery of uranium and its conversion is based upon when that material is fed to enrichment, not upon when the fuel is needed in the reactor. It is the exercise of this function in the past that has led to the huge supply/demand imbalance that exists today, and, to a large degree, DOE's loss of market for its enrichment services. It is also the very problem DOE purports to resolve through the proposed criteria. Unfortunately, in solving DOE's problems, and, at least partially, those of its utility customers, DOE has all but destroyed another of its "partners" in the fuel cycle, the domestic mining and milling industry.

For better or worse, the mining and milling industry is a "partner" of the DOE in the nuclear industry, as are other members of the fuel cycle, because all parts of the cycle are interdependent. An enrichment facility without feed is as useless as a uranium mill without access to the means of upgrading its product for use by its ultimate customer, the electric power plant. Just as it is essential to the energy security of the nation to have a healthy enrichment enterprise, it is equally essential to have the domestic capability to feed it.

Both "partners" have fared poorly in the recent past. While cancellations and delays in the construction of power plants, and the resultant build-up of both uranium and SWU inventories, have diminished available markets, the principal cause of the plight of both partners is the importation of foreign uranium, natural and enriched. The mining and milling industry is presently operating at less than 25 percent capacity. Although capacity may have been overbuilt, projections were based on the grossly optimistic forecasts of DOE and its predecessor, the AEC, and on the false demand created by DOE's "take or pay" enrichment contracts, both in the U.S. and abroad.

DOE is making a valiant attempt in the criteria to regain its lost markets and is to be applauded for the recent cost reductions at the enrichment facilities, but in continuing its illegal policy against restrictions on the enrichment of foreign uranium for domestic use, it is reading one of its "partners" out of the partnership.

Whatever other causes of the industry's difficulties there may be, there is no doubt that the chief problem is that we are drowning in a flood of imports. Given relief from the flow of imports, the domestic industry still has the capability to supply a significant portion of U.S. demand. However, if the industry is given no relief, and DOE continues to pursue what it perceives to be its short-term business interests to the detriment of the domestic industry, that capability will erode and possibly disappear altogether.

II. DOE's Failure to Include an Enrichment Limitation Is Unlawful and Unsupported.

DOE's proposed uranium enrichment criteria are unlawful and must be revised because they fail to include a limitation on enrichment of foreign source uranium for domestic end-use.[1] Section 161(v) of the Atomic Energy Act, 42 U.S.C. § 2201(v), provides that the Secretary of Energy,

> "to the extent necessary to assure the maintenance of a viable domestic uranium industry, shall not offer [enrichment] services for source or special nuclear materials of foreign origin intended for use in a [nuclear reactor] within or under the jurisdiction of the United States..."

---

[1] The issue of enrichment of foreign-source uranium for domestic end-use arises in two respects in DOE's proposed uranium enrichment criteria. First, DOE admits in its Environmental Assessment that the single most important alternative -- which it rejects -- to the instant proposed criteria is the imposition of a limitation on enrichment of foreign-source uranium for domestic end-use. Second, DOE indicates that its proposed criteria are specifically intended to continue the agency's policy of refusal to implement a limitation on enrichment of foreign source uranium as required by section 161(v).

(Emphasis added). When used in a statute, "shall" is mandatory. Boyden v. Commissioner of Patents, 441 F.2d 1041, 1043 n.3 (D.C. Cir. 1971); Moon v. United States Department of Labor, 727 F.2d 1315, 1318-19 (D.C. Cir. 1984); Northern Colorado Water Conservancy District v. FERC, 730 F.2d 1509, 1577 (D.C. Cir. 1984); International Union of Elec., Radio & Mach. Workers v. NLRB, 610 F.2d 956, 960 n.32 (D.C. Cir. 1979). As stated in American Association of Railroads v. Costle, 562 F.2d 1310, 1312 (D.C. Cir. 1977), "[t]he word 'shall' is the language of command in a statute." Thus, section 161(v) imposes a mandatory duty on the Secretary to limit the enrichment of foreign source uranium for domestic end-use to the extent required to assure the maintenance of a viable domestic uranium industry. On September 25, 1985, after a prolonged delay,[1] the Secretary finally admitted that the domestic uranium industry is nonviable. Although technically this determination relates to the industry's status in 1984, nothing has changed in the past year, or will occur this year (unless DOE imposes an enrichment limitation pursuant to section 161(v)) which will alter the industry's plight.

Employment within the U.S. uranium industry has nose-dived from more than 22,000 workers in 1981 to less than 2000 today. U.S. uranium production has dropped to less than 10 million pounds projected for 1986 -- only one-fourth of U.S. civilian nuclear requirements. Only about three of 25 mills are still in operation.

---

[1] The Secretary on December 31, 1984, issued a determination that the domestic uranium industry was viable for calendar 1983. At that time, the industry was in a state of collapse and the purported determination was greeted with incredulity in the business community. See, e.g., U.S. Uranium Mines, Thriving 5 Years Ago, Are Nearing Extinction, Wall St. J., p. 1 (June 12, 1985).

The future appears equally bleak. The Energy Information Administration in its latest report indicates that imported uranium accounted for one-quarter to one-half of U.S. requirements in 1982-84,[1/] and that this share of the market will increase to 60 to 70% by the early 1990's.[2/] Independent consultants suggest that the situation will be even worse. Colorado Nuclear Corporation ("CNC"), an independent consulting firm which devised DOE's computer model for the uranium industry, forecasts that, absent a change in government policy, the share of the U.S. market supplied by domestic producers will continue to decline, both absolutely and relatively, through the turn of the century.[3/] CNC's projections show the market remaining to be supplied by the domestic uranium industry as limited to only a few million pounds per year. In confirmation, virtually all new contracts for uranium (especially long-term) are for foreign-origin material. In short, our domestic uranium industry is disappearing.

1/ EIA, Domestic Uranium Mining and Milling Industry, 1984 Viability Assessment xvi (Sept. 1985) (51.7% in 1982; 25.9% in 1983; 37.4% in 1984) (in 1982, large amounts of uranium from the Canadian government stockpile entered the United States).

2/ EIA, supra, at xvii.

3/ CNC, Review and Critique of "United States Uranium Mining and Milling Industry: A Comprehensive Review" (Sept. 1984), reprinted in "Review of the Status of the U.S. Domestic Uranium Mining and Milling Industry," Hearings before Energy Research and Development Subcommittee of the Senate Energy and National Resources Committee, 98th Cong. 2d Sess. 122 et seq. (Sept. 12, 1984).

DOE claims that it has discretion to decline to impose an enrichment limitation because of the words "the extent" in the statute. More specifically, DOE claims that even if the domestic uranium industry is non-viable,

> "DOE should continue its analysis by considering, in the words of the statute, 'the extent' to which restricting enrichment of foreign source material for domestic enduse will in fact, 'assure the maintenance of a viable domestic uranium industry.' DOE's preliminary view is that restrictions would not assist the domestic mining and milling industry in any meaningful way."

51 Fed. Reg. 3627. DOE's position is wrong in at least four particulars. First, DOE misreads the statute. Second, DOE erroneously claims that enrichment limitations would not help the domestic uranium industry. Third, DOE implicitly ignores its own responsibility for the current condition of the domestic uranium industry. Fourth, DOE continues to ignore evidence of unfair trade which is devastating the domestic uranium industry. Correction of any one of these errors is sufficient to compel a reversal of DOE's conclusion concerning the imposition of enrichment limitations. Each of these points is considered in more detail below.

1. DOE misreads the statute. The statute says that DOE "shall limit" enrichment to the extent necessary "to assure" the maintenance of the domestic uranium industry. The emphasis in this prescription is on the verb "shall limit" and the infinitive "to assure". "Shall" imposes a mandatory duty. The only limitation on this duty is that it only extends so far as

is required "to assure" the maintenance of a viable domestic uranium industry. Thus, if a total bar on DOE enrichment of foreign source uranium were necessary "to assure" the maintenance of a viable domestic uranium industry, DOE would be obligated to impose such a bar. The statute requires DOE to impose whatever level of enrichment restriction is necessary to assure the viability of the industry. The phrase "to the extent necessary" refers to the requisite level of restrictions, not, as DOE apparently claims, to the discretion it claims to possess to refuse to impose any restrictions. This result definitely comports with the legislative history. The proviso in question to section 161(v) was specifically sought by representatives of the domestic uranium industry to limit the discretion of DOE's predecessor to decline to take action to maintain a viable domestic uranium industry.

When Congress was considering the adoption of the Private Ownership of Special Nuclear Materials Act, a major concern was the impact of the new regime of private as opposed to public ownership of uranium on the domestic uranium industry, theretofor totally dependent on purchases by the Atomic Energy Commission (AEC). Domestic producers feared foreign dumping of excess supplies on the U.S. market at prices with which domestic producers could not compete;[1/] moreover, there was concern that

---

[1/] See, e.g., Private Ownership of Special Nuclear Materials, Hearings before the Subcomm. on Legislation of the Jt. Committee on Atomic Energy, 88th Cong., 1st Sess. at 114-15 (1963) (1963 Hearings).

there would be insufficient demand for uranium from nuclear utilities to sustain a viable domestic uranium industry against low-cost foreign producers.[1] Loss of a viable domestic uranium industry was viewed as contrary to basic U.S. interests.[2] The AEC in fact acknowledged that "it [is] essential that [the domestic uranium] industry be maintained viable . . . "[3] The Commission offered to bar enrichment of foreign source uranium for domestic end-use as an administrative matter pursuant to its general authority under the Atomic Energy Act.[4] However, uranium producers, expressing concern about the reliability of a commitment to assure the viability of the domestic industry absent an express statutory obligation, called for specific legislation to "postpon[e] the enrichment in Government plants of foreign uranium for domestic use."[5] The Vice-Chairman of the Joint Committee requested Dean McGee,[6] a spokesmen for the industry, to propose legislation. Mr. McGee proposed the language[1] which ultimately became the criteria and enrichment limitation provisos in section 161(v).[2] There was no "sunset" or other cut-off on this obligation. To the contrary, it was clearly intended to limit DOE's discretion to decline to impose enrichment limitations for as long as the provision remained in the statute.

---

[1] See, e.g., Private Ownership of Special Nuclear Materials, 1964, Hearings before the Subcomm. on Legislation of the Jt. Committee on Atomic Energy, 88 Cong., 2d Sess. at 154 (testimony of Dean McGee concerning low-cost Canadian and South African production) (1964 Hearings).

[2] 1964 Hearings at 154 § 427.

[3] Id. at 4.

[4] 1964 Hearings at 5, 16-17.

[5] 1964 Hearings at 155.

[6] 1964 Hearings at 196.

In adopting the enrichment limitation proviso, Congress recognized that domestic uranium production was an integral and vital part of the U.S. nuclear fuel and nuclear industry, and thus vital not only to U.S. energy independence but also to national security and defense. In the words of the Joint Committee,

> "the maintenance of a viable domestic uranium industry is an integral part of a sound nuclear industry."[3]

And assurance of a viable domestic uranium industry is

> "in the national interest since this industry is related to our national defense and security."[4]

In short, the enrichment limitation in section 161(v) serves an important public purpose, it is mandatory, it limits DOE's discretion, and it compels DOE to impose an enrichment restriction, one that must be 100 percent if necessary to provide assurance of uranium industry viability.

---

[1] Id. at 197-98.

[2] P.L. 88-489.

[3] 1964 U.S. Code Cong. & Admin. News 3132.

[4] Id. at 3121.

2. Imposition of an enrichment limitation would assist the domestic uranium industry. DOE has made two kinds of arguments for the proposition that an enrichment limitation under section 161(v) will not assist the domestic uranium industry. The first argument is not so much analytical as polemical. That argument implicitly assumes that the enrichment limitation in section 161(v) is triggered only by import problems. DOE then asserts that the problems faced by the domestic uranium industry are not due to imports but instead due to a decrease in demand. Thus, DOE claims, implementation of section 161(v) to limit imports will not help because the industry's problem is not imports. Both DOE's reasoning and the assumptions underlying it are incorrect. It is of course true that demand for nuclear fuel, including uranium, has not grown as rapidly as forecast by DOE and its predecessors.[1/] However, U.S. demand for uranium is currently at an all-time high (U.S. civilian uranium burn needs are currently about 33,000,000 pounds per year) and growing. This demand can be met from one of three sources: (1) domestic production, (2) foreign production, and, because the enrichment policies of DOE and its predecessors created some large stockpiles, (3) inventories. The vast majority of short-term demand is being filled from foreign production and inventories. Virtually all long-term demand is being committed to foreign sources

---

[1/] The forecasts of DOE's predecessors as well as the agency have been vastly overly optimistic. See, e.g., AEC, The Nuclear Industry 1973 at p. 1; Uranium Enrichment: Heading for the Abyss, 221 Science 730, 731 (August 19, 1983).

of supply. In short, the domestic uranium industry's problem may be lack of demand, but that lack is because the demand is being filled by foreign sources of supply (and, in the short term, to some extent by inventories). Under these circumstances, reimposition of enrichment limitations under section 161(v) would definitely and obviously assist the domestic uranium industry by preventing surplus foreign production from capturing virtually all U.S. demand not being filled out of inventories.[1] Indeed, in view of the facts (a) that section 161(v) limitations are admittedly consistent with the General Agreement on Tariffs and Trade (GATT)[2] and (b) that the Administration has declined to take action under other trade statutes to assist the domestic uranium industry (either because the Administration feels that they would be ineffective or that such action might violate GATT),[3] implementation of limitations under section 161(v) may be the only means available to provide any meaningful assistance in terms of contributing to the maintenance of a viable domestic uranium industry. If the Administration is correct that other trade remedies are not appropriate and that only section 161(v) is available, then section 161(v) clearly must be invoked.

---

[1] See Testimony of Edward Farley Before the Subcommittee on Energy Conservation and Power, House Committee on Energy and Commerce (Oct. 8, 1985) attached as Appendix A (with exhibits).

[2] See, e.g., 1964 U.S. Code Cong. & Admin. News 3121 ("the Committee believes that these reasonable and flexible restrictions on the performance of services by the Commission should not in any sense be deemed inconsistent with any obligations the United States may have under . . . GATT . . . and other international trade agreements"); Letter, United States Trade Representative Clayton Yeutter to Congressman Udall, July 15, 1985 (enrichment limitation does not infringe GATT because it is a condition on which U.S. government renders a service).

[3] DOE notes that the Trade Representative, to whom DOE referred the question of alternative trade remedies, has concluded that none would be appropriate. 51 Fed. Reg. 3628.

DOE's second argument for the proposition that application of section 161(v) would be inconvenient to DOE or inefficacious in assisting the domestic uranium industry is that such an application would result in loss of business to DOE. There are two permutations to this DOE argument. First, DOE sometimes simply suggests that any assistance to the domestic uranium industry would be inconvenient to DOE's business. Even if assistance were to constrain DOE in some particulars, it must be provided. The Atomic Energy Act specifically charges DOE with the obligation of assuring the maintenance of a viable domestic uranium industry. It nowhere sets forth an even remotely similar command with respect to the enrichment enterprise. If anything is to be concluded from this, it is that if one element or the other of the U.S. nuclear fuel industry must alter its policies for the benefit of the other, it is the federal enrichment monopoly which must give way to the domestic uranium industry, for it is only the latter whose viability by statute must be assured. In a wider view, we believe that DOE's conception of enrichment and its problems as separate from the domestic uranium industry is wrong. DOE's effort has been exclusively to maximize its own market share.[1] This is short-sighted in the extreme.

---

[1] It is no secret that DOE conceived its new enrichment contract and the policies which it embodies without analysis of

[Continued]

Once the domestic uranium industry disappears, the temptation of foreign uranium exporters to construct their own enrichment capacity and to apply a domestic upgrade requirement (i.e., to sell uranium only as enriched uranium) will be very great. Once this happens, the U.S. enrichment business will be threatened just as the U.S. uranium conversion business is threatened by Canada's current upgrade requirement.

The second permutation of DOE's argument is that assisting the domestic uranium industry would be inefficacious because the agency would lose business to European enrichment suppliers and the uranium supplied by those enrichment suppliers would by and large be of foreign origin. The first point to recognize concerning this claim is that, as stated, it is purely speculative. DOE has presented no data or analysis to support it, nor has the agency presented any such analysis or data to support it in the past. DOE's previous avoidance of the need to substantiate its claim can be excused because the agency never before made it in a proposed rulemaking. But DOE is now in a rulemaking. The Administrative Procedure Act, 5 U.S.C. § 553(c). guarantees interested parties an "opportunity to participate in the rulemaking." As a corollary of this right, agencies must

---

[Footnote continued]

the impact of that contract or those policies on domestic uranium producers. See Affidavit of Larry A. Boggs in Western Nuclear v. Huffman, D. Colo. No. 84C-2316 (recounts DOE's failure to afford meaningful opportunity to comment to domestic uranium industry) (attached as Exhibit A to Farley Testimony, Appendix A). Most of DOE's efforts since that time have not been to remedy that oversight but instead to cover it up with ex post facto and incorrect assertions designed to vindicate the agency's original position.

> "disclose in detail . . . the data upon which [a] rule is based."

Home Box Office, Inc. v. FCC, 567 F.2d 9, 35 (D.C. Cir.) , cert. denied, 434 U.S. 829 (1977); Portland Cement Ass'n. v. Ruckelshaus, 486 F.2d 375, 393 n.67 (D.C. Cir. 1973), cert. denied, 417 U.S. 921 (1974); National Crushed Stone Ass'n. v. EPA, 601 F.2d 111, 117-120 (4th Cir. 1979); United States Lines v. FMC, 584 F.2d 519, 534-36 (D.C. Cir. 1978) (nondisclosure of data or studies violates public's procedural rights and virtually precludes accurate judicial review by foreclosing adversary comment); Aqua Slide 'N' Dive Corp. v. CPSC, 569 F.2d 831, 842 (5th Cir. 1978); United States v. Frontier Airlines, Inc., 563 F.2d 1008 (10th Cir. 1978). This rule is all the more imperative in view of Section 501(b) of the DOE Organization Act, 42 U.S.C. § 7191(b), which provides that publication of proposed rules by DOE

> "shall be accompanied by a statement of the research, analysis, and other available information in support of the need for, and the probable effect of, any such proposed rule, regulation, or order." 1/

The producers do not believe that DOE has any analysis to support its assertion that it will lose sufficient business to render an enrichment limitation inefficacious (or at least that DOE has any

---

1/ The uranium producers note that certain additional procedural requirements apply if a DOE rulemaking presents a substantial issue of fact or law, or that the proposed rule, regulation, or order is likely to have a substantial impact on the Nation's economy or large numbers of individuals or businesses. 42 U.S.C. § 7191(c)(1). DOE's proposed rule clearly meets these criteria. Among other things, the rule may spell the demise of the domestic uranium industry, with permanent adverse effects on thousands of workers, their families, communities, and small businesses.

analysis prepared before, and considered during, the preparation of the proposed rule).[1] If this is the case, then DOE's argument concerning loss of business must be disregarded.

If DOE has an analysis to support its argument, the agency's failure to make it available vitiates the rulemaking. Moreover, the producers are convinced that such an analysis, if it exists, is based on erroneous, contrived, or worst case assumptions, or incorrect or incomplete data which render the analysis inadequate. If DOE has any data or analysis to support its position, the producers request that the data or analysis be made generally available to them for at least 60 days for additional written and oral comment, and that the close of the comment period be extended accordingly.

---

[1] Representatives of the uranium producers have been advised by the Trade Representative's staff that DOE presented no analysis or information to the Trade Representative to support the conclusion that the agency would lose so much business as to render inefficacious an enrichment limitation. This is important for two reasons. First, it indicates that DOE has no analysis to support its arbitrary assertion, or at least no analysis which would withstand scrutiny. Second, it shows that the Trade Representative simply parroted DOE's unsubstantiated assertions when the Trade Representative (as DOE claims at 51 Fed. Reg. 3628), stated that

> "the major consequence of any such restrictions would be the shift of enrichment activity from U.S. government facilities to foreign facilities, thereby eroding the position of U.S. enrichment enterprises."

To the extent that DOE chooses to rely on the Trade Representative's alleged conclusion, the producers note that the Trade Representative apparently relied solely on DOE for this conclusion and the producers must be afforded at least a 60 day opportunity to review and comment on any data, analysis, or information to substantiate it.

The second point to emphasize is that even if DOE could establish that it in fact would suffer any loss if it imposed an enrichment limit, DOE would nevertheless be obligated to impose the necessary enrichment limitation under section 161(v). If the agency feels that this regime would have detrimental effects, it should ask Congress to amend the law. DOE lacks the authority to amend the statute by administrative action, or inaction.[1] But it is worth noting that DOE can take action to avoid pitfalls which it claims would occur. For one thing, DOE's predecessor repeatedly took the position that it had inherent power under the Atomic Energy Act to limit import licenses for either enriched uranium or natural uranium to the extent necessary to assure an economically viable enrichment business or an economically viable natural uranium business.[2] Indeed, DOE's predecessor made exactly this point when asked about alternative means of assuring the economic viability of the uranium industry in hearings in 1974.[3] To be sure, under the Energy Reorganization Act, the old AEC was split into the Nuclear Regulatory Commission ("NRC") and the Energy Research and Development Administration ("ERDA"), which later became DOE. The producers understand that DOE argues that NRC, which inherited the licensing function under the Atomic Energy Act, may no longer involve itself in the discharge of its licensing duties in any actions which may be in the nature of enhancing the development of any aspect of the nuclear industry. DOE then contends that NRC therefore may not employ its licensing authority to protect DOE from loss of business, if any were to occur, if DOE were to impose enrichment limits under section 161(v). But DOE is manifestly in error. Nothing in the Energy Reorganization Act was intended to change substantive authority under the Atomic Energy Act. Clearly then, the substantive authority to impose license restrictions if necessary to safeguard DOE's enrichment business, particularly as DOE strives to assure the viability of the domestic uranium industry, is not erased by the Energy Reorganization Act. The Energy Reorganization Act does embody an institutional separation of functions between developers of nuclear power and its regulators, but this may be honored by DOE making the determination that license limitations on importation of enriched uranium may be needed to protect DOE's (and taxpayer's) enrichment investment and national interests in the enrichment area, with that determination then applied by NRC in the form of license restrictions.[1/] In this fashion, NRC is simply implementing an energy security function, much as it is involved in non-proliferation and other security-type issues. In

---

[1] See Letter of the Comptroller General to Congressman Markey, Feb. 19, 1986, attached as Appendix B.

[2] See, e.g., 1963 Hearings at 30 (statement of General Counsel Hennessey); Proposed Modification of Restrictions on Enrichment of Foreign Uranium for Domestic Use, Hearings before the Joint Comm. on Atomic Energy. 93d Cong., 2d Sess. at 8 (1974); Id at 233 (AEC letter) ("1974 Hearings").

[3] See 1974 Hearings at pp. 8 and 233.

[1/] Put another way, to the extent that the Energy Reorganization Act constrains "development"-type considerations in NRC's purview, the procedure outlined in the text meets the contraint.

short, if DOE would be substantially injured in its business, and certainly if an enrichment limitation would be rendered inefficacious due to increased imports of enriched material, the agency has a clear remedy in the form of a petition to NRC to exercise its licensing authority under the Atomic Energy Act.

Third and finally, the publicly available data and information suggest that DOE would not lose so much business as to render an enrichment limitation ineffective, particularly in the 1990's----the period with respect to which DOE espouses the greatest concern. According to Congressional Budget Office estimates, which generally conform to DOE figures,[1/] there are currently about 5 to 6 million SWU's per year of excess capacity in Europe.[2/] However, because of rising demand outside the United States, this excess is expected to erode to only about 2 to 3 million SWU's by about 1990.[3/] At the same time, there are approximately 6 million SWU's of uncommitted demand projected in the 1990's.[4/] This uncommitted demand would more than balance out foreign excess capacity available in the same period. This implies that DOE cannot lose significant business, because

---

[1/] Proceedings of the Tri-Committee Business Advisory Panel on Uranium Enrichment 98th Cong. 2d Sess., Serial No. 98-160 House Committee on Energy and Commerce at 18 (1984) ("Business Panel").

[2/] Congressional Budget Office, U.S. Uranium Enrichment: Options for a Competitive Program 17 (1985).

[3/] Compare CBO, supra, at 15 (Eurodif and Urenco capacity static) with id at 17 (Eurodif demand at 8 million SWU).

[4/] CBO, supra, at 14.

that business would not have any place to go.[1] There is another factor which militates against loss of business on the part of DOE: U.S. utilities have a preference to obtain enrichment services from DOE. The Chairman of Nuexco has questioned whether U.S. utilities would "seriously hurt" DOE--*i.e.*, go abroad for enrichment services to a significant degree-- if the agency were to take action which amounted to an increase in price relative to foreign enrichment.[2] Representatives of competing foreign enrichment facilities have complained that despite vigorous marketing efforts and prices 30 to 40 percent or more lower, most DOE customers remain loyal to DOE.[3]

3. *DOE bears a heavy responsibility for the current condition of the domestic uranium industry*. DOE and some of its supporters from time to time suggest that the problems faced by the domestic uranium industry are of the industry's own making, and that DOE is not responsible. This does not constitute a legal ground to decline to implement section 161(v) but it nevertheless is an impression which should be corrected, for it does not comport with past events. In the early 1970's DOE, through its predecessors, AEC and ERDA, forecast a rapidly

---

[1] The only possible concern would presumably arise if Europeans increased their capacity. But a major expansion of existing foreign GD or centrifuge capacity is unlikely in the face of DOE's projected low-cost AVLIS technology. Moreover, it would require long-term commitments by U.S. utilities, and U.S. utilities in the past have shunned such commitments.

[2] Business Panel at 84.

[3] *See*, *e.g.*, Nuclear Fuel, Oct. 22, 1984 at p. 1.

escalating demand for nuclear power and nuclear fuel. In the hope of creating sufficient market pressure to push foreign governments and private concerns to build additional enrichment facilities, DOE (again through its predecessors) took a number of actions with severe adverse repercussions for the domestic uranium industry. First, DOE's predecessors adopted the current enrichment criteria and Long Term Fixed Commitments (LTFC) take-or-pay contracts.[1] These contracts forced utilities into the enrichment market far in advance of need in order to cover these maximum expected requirements.[2] This also forced utilities into the market to purchase uranium for enrichment.[3] When the nuclear industry did not expand as rapidly as forecast, and when reactor completion slippages occured, inventories of both enriched material and natural uranium built up.[4] Second, DOE (and its predecessors) closed its order books, again forcing utilities into precipitous early transactions for enrichment and uranium,[1] and strongly encouraging foreign governments to band into two foreign government consortia (Urenco and Eurodif) to build alternative enrichment facilities.[2] Third, DOE entered into costly and unnecessary gaseous diffusion upgrade and gas centrifuge construction projects,[3] and into unnecessary and very expensive take-or-pay electricity contracts, assuring that the agency's costs would go up.[4] Fourth, in 1974 the agency decided,[5] on the basis of its rosy forecasts of spiraling demand for uranium, to initiate a graduated reduction of its limitations on enrichment of foreign source uranium for domestic end-use. This combination of government policies is, along with the rapid increase in imports and import commitments, responsible for the depressed condition of the domestic uranium industry.[6]

---

[1] See, e.g., Proposed Changes in AEC Contract Arrangements for Uranium Enriching Services, Hearings before the Energy Subcommittee of the Joint Committee on Atomic Energy, 93d Cong., 1st Sess. (1973).

[2] See Uranium Enrichment Policy, Hearing before the Energy Res. and Dev. Subcomm. of the Senate Energy & Natural Resources Comm., 95th Cong., 2d Sess. at 28 (1978) ("1978 Hearings") (large number of orders); Future Structure of the Uranium Enrichment Industry, Hearings before the Joint Comm. on Atomic Energy, 93d Cong., 2d Sess. at 517 (1974)("1974 Enrichment Hearings") (unexpected explosion of orders).

[3] Taylor, "How the U.S. Government Created the Uranium Crisis (And the Coming Uranium Bust)" (June 1977), reprinted in 1978 Hearings at 143.

[4] See id.

4. Implementation of Section 161(v) is appropriate to address unfair trade by foreign uranium exporters. DOE's predecessor testified that Section 161(v) was the preferred means with which to deal with uranium trade issues because it was the statute specially designed for uranium.[7] As already noted,

---

[1] 1974 Enrichment Hearings, supra, at 3 and 173.

[2] 1978 Hearings at 3 & 12.

[3] See, e.g., Uranium Enrichment: Heading for the Abyss, 221 Source 731.

[4] Id.

[5] See, e.g., 1974 Hearings.

[6] This result was presciently forecast in Taylor, reprinted in 1978 Hearings, supra.

[7] 1974 Hearings at 8-9.

and as the government admits, the amount of foreign source uranium entering the United States for domestic end-use is rapidly increasing and will soon exceed 60 to 70 percent of U.S. requirements. This alone should be sufficient to trigger implementation of Section 161(v), but there is more: There is mounting evidence of unfair trade in the form of heavy subsidization (both subtle and overt) and admitted dumping of foreign uranium on the U.S. market.

Approximately 50 to 60 percent of uranium imports are from Canada. Almost all the remainder are from South Africa. Because of the importance of Canadian imports, it is reasonable to focus first on Canada. While it is true that ore grades in Saskatchewan are very attractive, the U.S. industry generally stands in a better position as to ore grades than Canada's Ontario producers. The flood of Canadian imports arises not from a competitive advantage enjoyed by the Canadians generally, but from heavy government subsidies and supports for the Canadian uranium industry. Major portions of the Canadian uranium industry are government-owned.[1/] Canada has heavily subsidized its uranium industry to the tune of more than a billion dollars.[2/] To make

---

[1/] Eldorado Nuclear Limited has long been owned by the Canadian government. The Province of Saskatchewan owns the Saskatchewan Mining Development Corporation (SMDC). Government-owned Canadian companies are major participants in virtually all Canadian uranium projects. The remainder are financed in large part by the Province of Ontario through Ontario Hydro.

[2/] Eldorado in recent years has received an approximately $300,000,000 in uranium from the Canadian government stockpile

[Footnote continued]

matters worse, Canadian uranium is being offered on the U.S. market at prices far below the price at which it is sold on the Canadian home market and, we believe, to other countries as well. More specifically, the principal Canadian nuclear utility was paying more than $60 per pound for uranium in 1985,[1] while Canadian uranium was being sold, and offered for sale, in the U.S. in the $15-18 range.[2] The January 27, 1986, issue of Nuclear Fuel indicates that Canadian government-owned Eldorado has actually sold uranium in the U.S. at $10 to $14 per pound.[3] This is a prima facie case of "dumping" -- a practice which is not permissible under GATT. This situation is further compounded by tax benefits granted to, and direct government participation in, the nuclear utility business in Canada.

[Footnote continued]

in return for stock. A $100,000,000 loan to an Eldorado subsidiary was forgiven and a gain of roughly $25,000,000 was realized. *See* Eldorado's 1981 Annual Report at 2 and 25. The Province of Saskatchewan has provided approximately $250,000,000 in equity advances to SMDC and has also provided or guaranteed certain long-term debts of SMDC. SMDC 1983 Annual Report. Ontario Hydro (owned by the Province of Ontario) has advanced Denison and other Canadian uranium producers in excess of $600,000,000. *See*, *e.g.*, Wall St. J., Oct. 8, 1981 ($600,000,000 interest free loan to Denison and Rio Algom); Nuclear Fuel, Jan. 4, 1982 ($600,000,000 plus); Nuclear Fuel, Jan. 4, 1982 ($600,000,000 plus); Nuclear Fuel, March 28, 1983 ($600,000,000 at one project).

1/ *See*, *e.g.*, Nuclear Fuel, July 1, 1985 at p. 2, Nuclear Fuel, June 18, 1984, at pp. 4-5. The price paid by Ontario Hydro is actually $10.00 to $20.00 higher than reported in Nuclear Fuel because Ontario Hydro is also "recovering" its heavy cash advances (see note 19) as it takes delivery of its uranium.

2/ *See* Table attached as Exhibit D to Farley testimony, Appendix A.

3/ Nuclear Fuel, Jan. 27, 1986 (contracted with Iowa Electric).

The Canadian government provides further support to its producers through market allocations and exclusion of U.S. producers. More specifically, Canada imposes a 100% domestic content requirement. U.S. producers cannot compete against this kind of government orchestrated and subsidized "competition."

The situation with respect to South Africa is somewhat different, but equally a problem. The bulk of the South African production comes either from Namibia, where it is produced in contravention of a U.N. resolution,[1/] or as a coproduct of the country's gold-mining operations. South Africa allocates virtually all its costs to gold production, leaving it free to sell its uranium at low prices. However, the uranium content in the gold ore South Africa is mining is relatively very low and the ore is located at such a depth that we believe it would otherwise be uneconomic to mine, even under the Apartheid system. To further complicate matters, South Africa markets, prices. and allocates its uranium through a government corporation, Nufcor.

U.S. uranium mines and mills cannot be kept on suspended status indefinitely. First, that costs money -- money which is a total loss when no uranium is being produced. Second, eventually federal and state reclamation laws will be applied. Mills will be decommissioned and licenses terminated.[2/] Mines

---

[1/] See United Nations, Plunder of Namibian Uranium: Major Findings of the Hearings on Namibian Uranium Held by the United Nation's Council for Namibia (July 1980).

[2/] See CNC, supra, at p. 48, Hearings, 98th Cong. 2d Sess. at 182:

(Continued next page)

will be flooded. And once mines are flooded, it is dangerous, expensive, and in many cases impossible to recover any reserves remaining in those mines. This Nation risks the loss of its domestic uranium capacity within a few years.

The loss of a viable domestic uranium industry should be an important source of concern. There is obviously the concern one must feel for the 20,000 unemployed and displaced uranium miners and their families, and the disruption to the small western communities where this is most felt. This is particularly alarming when it is brought about by unfair foreign practices and ill-considered policies in DOE's enrichment program. However, broad interests of national security and energy independence are also involved. Dependable and assured energy supplies are fundamental to our economy and our national security. The United States depends on nuclear energy for some 15 percent of its electrical energy needs. The percentage is much higher in many of our states, including those of New England. Moreover, the percentage is on the increase and will

---

(Continued)

> "'excess' production capability will rapidly erode as producers shut down facilities and enter into decommissioning and reclamation as directed by the state and federal regulations which govern uranium production facilities. It is highly doubtful that the state authorities will allow the open-ended shutdown of uranium mines and mills. Pressure will be applied to decommission and reclaim after a relatively short period of inactivity."

continue to increase at least through the turn of the century, when it will exceed 20 percent.

A secure and reliable supply of nuclear fuel is essential to supply our Nation's needed electrical energy. Dependency on foreign sources of supply does not compare favorably with the security of domestic supply. In addition, some foreign sources, such as South Africa and Namibia, are in politically unstable regions of the world.[1/]

DOE has in the past indicated that foreign production is subject to embargoes and cartel pricing.[2/] This is not a hypothetical threat. Canada actually embargoed export contracts at one point in the 1970's.[3/] Congress has already investigated evidence of a foreign uranium cartel sponsored by foreign governments in the 1970's.[4/] And Australia flirts with

---

[1/] In the words of Robert Rich, until recently the nuclear fuel manager for the Yankee utilities,

> "When one considers that well over half of the western world's uranium resources are in areas that have been commonly characterized as politically unstable, there's a large potential for market disruption by political events." Nuclear Fuel, Feb. 11, 1985, at p. 8.

[2/] DOE, The Domestic Uranium Industry and Imports of Uranium 36-37 (Feb. 23, 1981).

[3/] Nuclear Fuel, July 11, 1977, p. 9; August 8, 1977, p. 1; January 9, 1978. p.1.

[4/] *See* Hearings before the Subcommittee on Oversight and Investigation of H. Comm. on Interstate and Foreign Commerce (1976-78) ("Moss Hearings").

cutting off uranium production.[1] Under these circumstances, it is clearly ill-advised to develop a dependency, and especially the heavy dependency to which we are headed, on foreign sources of supply.

III. The Proposed Criteria Fail To Delineate Policies Relating to the Federal Uranium Stockpile

DOE's proposed criteria do not have any guidelines relating to the agency's disposition of the federal uranium stockpile. Moreover, the preamble to the agency's proposed criteria fails to set forth any information concerning DOE's plans with respect to the stockpile.

The DOE uranium stockpile is believed to exceed 100,000,000 pounds. DOE policies with respect to the stockpile can have a profound effect on the domestic uranium industry. A prime example is the so-called "variable tails" issue. The current enrichment contract, which was declared null and void by the United States District Court for the District of Columbia, limits and penalizes an enrichment customer's selection of enrichment tails assay.[2] This has the effect of increasing demand for enrichment services and decreasing demand for uranium by as much as 3 to 5 million pounds per year--an amount equivalent to the output of several good sized uranium mills.

---

[1] Nuclear Fuel, July 30, 1984, p. 11.

[2] The "tails assay" is the amount of U-235 remaining in "depleted" uranium after enrichment. A tails assay of 0.35 means 0.35% U-235.

Moreover, at least at the time of issuance of the enrichment contract, DOE planned to operate its enrichment plants so as to require supplemental feed from the government stockpile.[1/] DOE plans to price this supplemental feed at $9.00 per pound[2/] -- a price about one-half that on the spot market. The net effect of DOE's restriction of customer choice of tails assay and DOE's planned distribution from the government stockpile is to transfer uranium demand from the private sector to DOE.

Outside experts have estimated that the net effect of the new enrichment contract, including these policies, is to reduce uranium demand by 50,000,000 to 100,000,000 pounds over the next 5 to 10 years.[3/] This is inconsistent with the policy embodied in Section 161(v) requiring DOE to assure the maintenance of a viable uranium industry. It is also inconsistent with taxpayers' interests in that it results in the distribution of federal assets at below market prices. It further costs American workers and their families in terms of lost employment and income.

[1/] *See* DOE Interim Operating Scenarios (Exhibit E to Farley Testimony attached as Appendix A).

[2/] DOE has significantly noted that the principal reason it is contemplating distribution from the government stockpile is to subsidize the enrichment price charged under its new contract. *See* Review of the Status of the U.S. Domestic Uranium Mining and Milling Industry, Hearing before the Energy Res. and Dev. Subcomm. of the Senate Energy and National Res. Comm. 98th Cong., 2d Sess. 48 (1984).

[3/] *See*, *e.g.*, Nuclear Resources International, DOE Enrichment Policies and the U.S. Uranium Industry (Sept. 1984) (Exhibit B to Farley Testimony attached as Appendix A).

DOE should allow free choice of tails assay between the ranges of 0.20 and at least 0.35 for all customers supplying domestic-origin uranium. The agency should make no distribution of uranium from the U.S. stockpile, either through overfeed or sales of "pre-produced" inventory, so long as the domestic uranium industry is non-viable.

IV. The Proposed Enrichment Criteria Are Unlawful in Other Respects As Well.

DOE's proposed criteria are unlawful not only because they fail to impose enrichment restrictions on foreign source uranium, as required by Section 161(v), see pp. 5-29, supra, but also because they are inconsistent with other statutory requirements. As the Comptroller General has recently advised Congressman Markey, Chairman of the House Subcommittee on Energy Conservation and Power, Committee on Energy and Commerce, the "proposed revised uranium enrichment services criteria are contrary to some basic and significant elements of the letter and legislative history of the statute governing the substantive requirements of the uranium enrichment program." Letter, Feb. 19, 1986, attached as Appendix B.

UPA emphasizes here only that the Comptroller General's concerns as to specific elements of DOE's proposed criteria reflect what UPA regards as DOE's general disregard of the provisions of its authorizing statute and the legislative policies underlying it. As the Comptroller General demonstrates, DOE's proposed criteria --

(1) disregard the statutory requirement of full-cost recovery, in proposing to write off in excess of $4 billion of past government investments;

(2) fail to set forth specified charges for enrichment services or any fixed price or pricing mechanism, contrary to congressional mandate; and

(3) fail to prescribe the terms of any standard contracts or set out the general features of standard contracts for uranium enrichment services.

V. Several of DOE's Specific Regulatory Findings Are Unsupported and In Error.

As DOE recognizes (51 Fed. Reg. at 3630), Executive Order 12291 requires an agency to prepare a regulatory impact analysis for any "major rule." DOE asserts that its proposed criteria are not a "major rule" for purposes of the Executive Order. This is incorrect. DOE's proposed rule will have an annual effect on the economy of $100 million or more: it purports to write off more than $4 billion in investment; it involves a $2 billion per year DOE enrichment enterprise; and it will allow the demise of the domestic uranium industry, which is an effect exceeding $100,000,000 annually.[1/] Moreover, the proposed rule will have a significant adverse effect on competition, employment, investment, productivity, and innovation in the domestic

---

[*/] Counsel for DOE recently asserted that DOE's enrichment contracts are "estimated to be worth $27 billion." Motion for Extension of Time, Western Nuclear, et al. v. F. Clark Huffman, et al., Tenth Circuit No. 85-2428, at 2, Motion filed Feb. 21, 1986.

uranium industry and, as we have indicated, it hamstrings the ability of the domestic uranium industry to compete, especially against foreign government-orchestrated competition. For these and other reasons, the proposed criteria readily meet the definitions of "major rule" in Section 1(b) of Executive Order 12291.

The National Environmental Policy Act requires DOE to prepare an environmental impact statement to accompany any proposal for major federal action which will have a significant impact on the environment. 40 U.S.C. §§ 4221 et seq.; 40 CFR §§ 1500 et seq. DOE's proposed criteria will result in the further diminution of the domestic uranium industry. This constitutes a significant impact on the environment, which will jeopardize the ability of the United States to rely on nuclear-generated electricity. Nuclear-generated electricity has generally been viewed as an environmentally desirable means of meeting energy needs. DOE's environmental assessment does not support the agency's "Finding of No Significant Impact."

Finally, DOE purports to certify that the proposal will not have a significant economic impact on a substantial number of small business entities. Again, this is in error. In furthering the demise of the domestic uranium industry, the proposed criteria will adversely affect small uranium mining operations and businesses that depend on those operations throughout the United States.

CONCLUSION

For all of these reasons, DOE's proposed enrichment criteria not only fail to meet statutory requirements but fail to meet the most minimal requirements for the viability of the domestic industry. National security goals and the goal of energy independence cannot be achieved in the long run without a viable domestic uranium mining and milling industry.

Respectfully submitted,

URANIUM PRODUCERS OF AMERICA

By: Robert P. Luke /pgg

Robert P. Luke
President, Uranium Producers
of America
1201 Pennsylvania Avenue, N.W.
P.O. Box 7566
Washington, D.C. 20044

Senator Domenici. Thank you, very much. Has the recent drop in the dollar had any positive effects on the competitiveness of the uranium industry?

Mr. Luke. We have not noticed it directly in the market, Senator. However, there does seem to be more interest all of a sudden by foreign countries in the purchase of some reserve holdings in the United States.

Our competition, as you may be aware, is primarily South Africa and Canada and their economies are performing somewhat differently than the European and Japanese economies. So to the extent that could be helpful, it would be helpful in terms of export sales as opposed to changes in the import picture.

Senator Domenici. I have two others that I will have staff submit. When you prepare your indepth statement, within the 2 weeks, if you would include in a separate section the answer to those questions, I would appreciate it.

Thank you, very much for your testimony. I am most appreciative not only of your endorsement of the proposal, but of the help you have all been in the past, as we try to do something in this area.

If there is nothing further, we stand in recess, subject to the call of the Chair.

Thank you, very much.

[Whereupon, at 12:30 p.m., the hearing was adjourned, subject to the call of the Chair.]

APPENDIXES

APPENDIX I

Responses to Additional Committee Questions

Department of Energy
Washington, DC 20585

MAY 21 1986

Honorable Pete V. Domenici
Chairman, Subcommittee on Energy
  Research and Development
Committee on Energy and Natural Resources
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

On April 10, 1986, Acting Assistant Secretary James W. Vaughan, Jr. appeared before the Energy and Natural Resources Subcommittee on Energy Research and Development to discuss the amendments to S. 1004 concerning uranium enrichment service criteria and uranium mill tailings.

Following that hearing, you submitted written questions for our response to supplement the record. Enclosed are the answers to those questions, which also have been sent directly to the Committee staff.

If you have any questions, please have your staff call Mike Gilmore or Cathy Hamilton on 252-4277. They will be happy to assist.

Sincerely,

Robert G. Rabben
Assistant General Counsel
for Legislation

Enclosure

POST-HEARING QUESTIONS AND ANSWERS
RELATING TO THE
APRIL 10, 1986 HEARING
BEFORE THE
SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES
SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT
WITNESS: JAMES W. VAUGHAN, JR.
ACTING ASSISTANT SECRETARY FOR NUCLEAR ENERGY
U.S. DEPARTMENT OF ENERGY

QUESTION FROM SENATOR PETE DOMENICI

Question 1: DOE attributes most of the drop in domestic uranium mining activities to the poor quality of our ores compared to ores mined in foreign countries. Yet Mr. Luke's testimony gives an example that defeats this argument: the Elliot Lake uranium district in eastern Canada, where ore and production costs are similar to U.S. conditions, yet Canadian production has increased by almost 20 percent since 1980, while U.S. production has been essentially abandoned. How can you account for this discrepancy?

Answer: The Canadian companies with mines in the Elliot Lake region have long-term contracts to supply uranium, most of which were signed in the late 1970's when prices were much higher than those prevailing today. Given this base of long-term contracts, it is not surprising that the Elliot Lake producers expanded production to meet these contract commitments, in spite of our estimate that their ore grades and production costs are comparable to those of U.S. producers.

In the United States, not all uranium companies with such long-term contracts have chosen to remain in production. In several cases, U.S. companies have shut down their own mines and mills and have chosen to purchase uranium, including some of foreign origin, in the marketplace to fulfill their commitments to supply uranium, because of the higher cost of producing their own material. It is clear that U.S. uranium companies with production costs similar to Elliot Lake producers, but without these long-term contracts, cannot compete successfully for new contracts in today's market and have abandoned production.

QUESTION FROM SENATOR PETE DOMENICI

Question 2: How has the recent drop in the dollar value affected our competitiveness with respect to foreign uranium prices?

Answer: Changes in competitiveness of U.S. uranium producers versus foreign producers are measured in terms of the relative costs of production in U.S. dollars. Thus, the change in monetary exchange rates is not the only factor affecting competitiveness. Factors such as inflation in each country's uranium production costs or a given country's need for other currencies could also be important factors. U.S. uranium producers' major competitors (other than inventory sellers) are in Australia, Canada, and South Africa. Between the beginnings of 1985 and 1986, the U.S. dollar actually rose against the Canadian dollar, but the Canadian inflation rate (for miners' hourly wages) almost exactly compensated for this change in exchange rates. Thus, Canadian production costs at the beginning of 1986 should be about the same as they were a year earlier, in U.S. dollars.

For Australia and South Africa, the net effect of changes in monetary exchange rates and differences in inflation rates has been to make their costs of uranium production, in U.S. dollars, rise 5 to 6 percent faster than U.S. producers' costs over the same period. Thus, we believe that the recent drop in the dollar's value has had little, if any, impact on our uranium producers' competitiveness.

Question 3:	Are you aware of Mr. Luke's allegation that Canada requires its state-owned utilities to purchase all uranium requirements for 30 years into the future before allowing uranium exports? Also, are you aware of Canada's requirement that the upgrading of uranium be performed in Canada? Are they unfair trading practices?
Answer:	We are aware of Canada's export policy, as reported to the Nuclear Energy Agency (Organization for Economic Cooperation and Development) and International Atomic Energy Agency and published in December 1983 in Uranium--Resources, Production and Demand:

> "Canada's uranium export policy was developed within a framework of general mineral policy objectives that seek:
>
> - to ensure adequate supplies for domestic needs,
> - to increase the return to Canadians from exportable surpluses,
> - to strengthen the knowledge base for national decision making,
> - to contribute to orderly world mineral development and marketing, and
> - to realize opportunities for further processing.
>
> ... In line with the general mineral policy objectives noted above, Canada's uranium export policy seeks to ensure a 30-year supply

of uranium for all Canadian reactors that are operating, committed or planned for a rolling 10-year period, and to ensure that there is sufficient uranium production capacity for the Canadian nuclear power programme to reach its full potential. Canadian producers are free to negotiate their own contracts but all export contracts are subsequently reviewed by federal government authorities to ensure that they are consistent with Canada's uranium export policy objectives. For contracts that are found to be consistent with these objectives, export permits are obtained annually from the Department of Industry, Trade and Commerce upon application to and endorsement by the Atomic Energy Control Board."

It is our understanding that the Government of Canada does not require that Canadian utilities actually have all their 30-year needs contracted with Canadian producers, but rather that the Government of Canada would only allow the export of uranium in excess of these needs.

With regard to Canada's "upgrading" policy, the U.S. Government has expressed to Canada our concern, and we are engaged in discussion with the Canadian Government attempting to modify that policy.

QUESTIONS FROM CHAIRMAN PETE V. DOMENICI

Mill Tailings

Question 4: In light of the changes made to S. 1004, and additional experience DOE has had its own Title I reclamation activities, does the Department have a revised estimate of the costs of Title II site cleanup?

Answer: The amendments to S. 1004 have made substantial changes which could affect the final cost of Title II site cleanup. In the Department's testimony on the original bill, we estimated that 30 to 40 percent could be saved without Federal control and management of the cleanup project. The amendments have made this change, with the resulting possibility of savings approaching or exceeding $1 billion, based on our estimate of total cost in the range of $2 to $4 billion. Additional experience with Title I reclamation activities has improved our confidence in the estimate for total cost of the Title I project, which was the basis for our Title II cleanup estimate.

QUESTIONS FROM CHAIRMAN PETE V. DOMENICI

Enrichment Services

Question 5: Would you elaborate on the nature of the additional comments you received with respect to the DOE uranium enrichment debt? When will your new analysis of the debt be published?

Answer: On April 25, 1986, the Department published in the Federal Register additional information on the recovery of prior Government cost in response to comments on the proposed rule to change the uranium enrichment services criteria. We have included a copy of the additional data provided as an insert to the April 10, 1986, hearing record. The Introduction to the data summarizes the nature of the comments the Department received to date on this subject.

QUESTIONS FROM CHAIRMAN PETE V. DOMENICI

Enrichment Services

Question 6: With respect to the problems DOE has identified in imposing import restrictions on uranium (i.e., this would result in utilities seeking uranium enrichment services, as well as uranium ore, from abroad), don't the provisions in S.1004 as amended resolve your problems?

Answer: Amendment 1729 to S. 1004 would require 50 percent of uranium loaded into nuclear power plants after January 1, 1988, to have been mined and milled in the United States. This would guarantee the domestic mining industry with a market share that exceeds DOE projections of their market share without the restrictions. However, the Administration does not believe that imposing import restrictions are in the best interest of the country as restrictions limit the economic benefits derived from a free competitive market environment.

QUESTIONS FROM CHAIRMAN PETE V. DOMENICI

Enrichment Services

Question 7: S.1004 extends the free variable tails assay option (VTAO) to all DOE enrichment customers. Could you elaborate on the pros and cons of this provision, as compared to the DOE's more limited practice?

Answer: The Department has some concern regarding this provision. While this provision could result in some increased consumption of natural uranium, the vast majority of DOE customers accepted our incentive price programs, which increased our sales and provided free VTAO through FY 1995. Therefore, any change in DOE's current policy regarding VTAO will likely have minimal impact on domestic uranium requirements through FY 1995. Another concern regarding this provision is the potential for reduced DOE enrichment sales and the loss of revenue to DOE without a compensating increase in sales.

QUESTIONS FROM CHAIRMAN PETE V. DOMENICI

Enrichment Services

Question 8: Do you believe that civilian customers should be required to pay for costs which should be allocated to the military or non-proliferation policy?

Answer: We do not believe that civilian customers should pay for costs that are properly allocable to the military or to other purposes. In Section III.B.6. of the additional data, published in the April 25, 1986, *Federal Register*, we explain in some detail how costs are allocated between commercial and Government users.

QUESTIONS FROM CHAIRMAN PETE V. DOMENICI

Enrichment Services

Question 1: Have you provided a breakdown of the $7.3 billion value to determine the appropriate amount to be assigned to (a) the military, (b) non-proliferation/national policy, and (c) the civilian customers?

Answer: Section III.B.5 of the additional data published in the April 25, 1986, Federal Register provides the details of the unrecovered Government investment. The analysis shows that $1,304 million is the amount of unrecovered Government investment that is planned to be recovered from future sales to commercial and Government users. The amount will be allocated as described in Section III.B.6.

QUESTIONS FROM CHAIRMAN PETE V. DOMENICI

Enrichment Services

Question 10: Did the Administration testify before Congress at any time that inventories of enriched products were accumulated to address non-proliferation concerns? If so, why should the costs associated with these inventories be assigned to civilian enrichment customers?

Answer: The Department accumulated preproduced inventory of enrichment services in the 1970's. After passage of the Nuclear Non-Proliferation Act of 1978 on March 12, 1979, the Department testified before the House Appropriations Subcommittee on Energy and Water Development that DOE was reserving 5 million SWU's as a possible set aside for international fuel assurance purposes. Later, it became apparent that none of the inventory would be needed for non-proliferation applications. DOE now plans to utilize its preproduced inventory to meet a portion of commercial deliveries over the next several years.

QUESTIONS FROM CHAIRMAN PETE V. DOMENICI

Enrichment Services

Question 11: Did Congress ever require the enrichment program to establish a "debt" account? Has Congress ever taken a position that payments should be made to the Treasury?

Answer: Congress has not required the enrichment program to establish a "debt" account. Congress enacted Section 161.v. of the Atomic Energy Act to require pricing on a basis of recovery of the Government's costs. This provision did not specify use of the enrichment revenues; rather, the use of revenues is to be determined in annual authorization and appropriation acts. Congress also enacted the Consolidated Omnibus Budget Reconciliation Act of 1985 which established payment goals of $110 million for FY 1986, $150 million for FY 1987, and $150 million for FY 1988.

QUESTIONS FROM CHAIRMAN PETE V. DOMENICI

Enrichment Services

Question 12: In a letter to Congressmen Dingell and Ottinger on August 10, 1984, GAO stated that "DOE is not required to have a formal plan for repaying the Treasury for government's cost of providing enrichment services, nor does the legislative history indicate that the Congress intended the programs to make specific repayments to the Treasury as is the case for some other programs." Why are you now suggesting otherwise?

Answer: Section 161.v. of the Atomic Energy Act requires that enrichment pricing be on a basis of recovery of the Government's costs. The Administration believes it is appropriate that the revenues realized from the recovery of this investment be used to make payments to the Treasury. The pace of recovering these costs and the disposition of revenues will be determined annually based on enrichment market conditions and budget priorities.

QUESTIONS FROM CHAIRMAN PETE V. DOMENICI

Enrichment Services

Question 13: How do the prior payments of $1.2 billion to TVA for demand charges on electricity not used, impact the price of uranium enrichment and the total of unrecovered costs?

Answer: Payments to TVA for demand charges on electricity not used are included and recovered in annual enrichment services prices. Thus, both military and civilian prices have been and will continue to be higher to allow payment of the TVA demand charges to date and the projected future demand charges of almost $2 billion. Such payments do not impact the amount of unrecovered Government costs.

QUESTIONS FROM CHAIRMAN PETE V. DOMENICI

Enrichment Services

Question 14: How much enriched uranium did you sell to foreign nations last year? Doesn't this help the balance of trade problem?

Answer: In FY 1985, the Department sold 4.2 million separative work units for $576 million to foreign customers. Sales to foreign customers help balance of trade problems.

QUESTIONS FROM CHAIRMAN PETE V. DOMENICI

Enrichment Services

Question 15: I understand from your FY 1987 budget that you assume that AVLIS development and deployment will be funded by the private sector. If this legislation were enacted and you were required to pay only $350 million to Treasury rather than the amounts indicated in the supplemental material accompanying the revised enrichment criteria, wouldn't you be able to fund AVLIS deployment and further reduce your price in the near term to make it competitive?

Answer: The precise impact of enacting Amendment 1729 to S. 1004 on the Department's FY 1987 budget request is unclear in that (1) the $350 million limit on payments to the Treasury has no defined time period; and (2) the Consolidated Omnibus Budget Reconciliation Act of 1985 establishes a $150 million payment goal for FY 1987. Although the proposed amendment to S. 1004 would lead to lower long-term prices and reduced payment levels to the Treasury, the specific impact on funding for AVLIS research, development, and deployment would be determined in annual appropriations bills.

QUESTIONS FROM CHAIRMAN PETE V. DOMENICI

Privatization

Question 16(a): You state that DOE is now studying various options for restructuring the uranium enrichment enterprise. What are some of the specific options that are under consideration?

Answer: On April 7, 1986, the Department published in the *Federal Register* a notice requesting expressions of interest in financial and operational participation in the uranium enrichment program. Responses to this request for expressions of interest are due by May 30, 1986, and will provide insight into the types of activities and the terms and conditions private industry might find attractive enough to merit participation in uranium enrichment. It is our expectation that private sector views on various options for restructuring the enterprise will result from this activity. While private sector input is sought, we have begun to analyze, from a financial and institutional perspective, various approaches to joint Government/industry management and ownership of assets (debt, equity, lease-purchase).

QUESTIONS FROM CHAIRMAN PETE V. DOMENICI

Question 16(b): Would you provide the Subcommittee the Department's legal interpretation concerning the authority for disposing enrichment services enterprise's asset? Specifically, whether the Congressional approval is required for privatizing all or any parts of the enterprises?

Answer: The Department's preliminary, general view has been that such a major action likely would require new statutory authority. The Department will not be able to form a dispositive opinion in the abstract, however, but instead will have to consider particular proposals as they may develop, to see whether their implementation would require new legislation.

QUESTIONS FROM CHAIRMAN PETE V. DOMENICI

Privatization

Question 17: If you sell the uranium enrichment business, does that mean you will also sell the stockpiles of natural and enriched uranium to the private sector? Doesn't this allow them to flood the market with large amounts of low priced enriched uranium and U308?

Answer: The disposition of stockpiles of natural and enriched uranium will depend on the asset divestiture approach, if any, selected by the Administration later in 1986. Obviously, the Government may choose to retain a stockpile for energy security and national defense reasons depending on the nature of any private sector participation proposal. Also, it does not seem likely that a private enricher--who would benefit from market stability--would have a strong incentive to sell at less than world market clearing prices.

QUESTIONS FROM CHAIRMAN PETE V. DOMENICI

Privatization

Question 18: If the uranium enrichment enterprise were privatized, does the private owner need to obtain an operating license from the NRC since it is no longer operated by DOE? What would the licensing procedure entail and how long would it take for the NRC to consider the proposal based on your knowledge of the operations?

Answer: Our working assumption is that a private owner will need an NRC license to construct and/or operate an enrichment facility. NRC criteria for licensing an enrichment facility do not currently exist. We estimate that promulgation of licensing criteria, and the licensing of a commercial scale uranium enrichment plant would take several years.

QUESTIONS FROM CHAIRMAN PETE V. DOMENICI

Privatization

Question 19: If the GDP's were sold, what would the implications be on: a) national security? b) on the stability of the enrichment business? c) on nonproliferation?

Answer: The Department is approaching private sector participation in uranium enrichment in a manner that provides program stability, support of national security objectives, and places proper focus on nonproliferation concerns. Although our analysis is at a very preliminary stage, it is possible to envision a private corporate structure in which classified technology and defense materials are protected. One approach could entail a continuing Government role in the management of the enterprise, including retaining partial ownership of the enrichment complex. Alternatively, the Government could retain control of that portion of the complex that produces highly enriched uranium, selling only the low enrichment facilities. In all cases, however, control of classified information and technology, and reliability of supply of both defense and civilian enrichment services, would be essential ingredients in the transition from Government to private ownership of the GDP's.

QUESTIONS FROM CHAIRMAN PETE V. DOMENICI

Privatization

Question 20:	If you transfer the uranium enrichment business to the private sector, what would be your contingency plan if the private sector enricher went bankrupt or suddenly decided to get out of the business?
Answer:	The Government must be prepared to reassume the responsibility of providing enriched uranium for military and civilian applications. The terms and conditions for this transition would have to be incorporated into the legal instruments and legislation that establishes the private enrichment entity.

QUESTIONS FROM CHAIRMAN PETE V. DOMENICI

Privatization

Question 21: I understand your reluctance to look in on the final uranium enrichment organization until you have completed your analysis. However, could you comment on the relative advantages of the corporation as specified in our bill?

Answer: The primary advantages of a Government corporation as outlined in your bill are that a smooth transition to a fully private corporation could be made while the interests and risks to both Government and private sector participants are balanced. At the same time, a corporate structure could provide for improved management of enrichment operations, more stability in long-term activities such as marketing and advanced R&D, and more economic uses of current and future revenues through self-financing and fiscal authority.

QUESTIONS FROM SENATOR DALE BUMPERS

Recovery of Government's Costs

Question 22: Your statement indicates that under DOE's proposed Enrichment Services Criteria, DOE will return to the U.S. Treasury, over a "reasonable period of time", previously unrecovered costs associated with the provision of enrichment services to civilian customers. What is the reasonable period of time to which you refer? Is there a definite repayment schedule?

Answer: The Department has not established a specific schedule for the recovery of the unrecovered Government investment. We intend to determine the amount annually based on enrichment market conditions and budget priorities.

QUESTIONS FROM SENATOR DALE BUMPERS

Privatization

Question 23: Privatization of uranium enrichment facilities and technologies--If the government must now subsidize its enrichment activities in order to produce a competitively priced product, how will privatization of enrichment activities enhance the competitive position of the United States in this area?

Answer: Over the past 3 years, the Department has revamped the uranium enrichment enterprise to assure that it can function competitively in the world market with no future government subsidy. In fact, the program plans to return $110 million in net revenues to Treasury in FY 1986. The basic premise of the Administration's asset divestiture initiative is that uranium enrichment is a commercial activity that private industry may be able to conduct more efficiently than the Government. If industry responds to this initiative, it will be because private investors agree that industry is better able to control costs, innovate and aggressively market enrichment services, and can do so at a profit.

QUESTIONS FROM SENATOR DALE BUMPERS

Privatization

Question 24:	Privatization raises concerns about the increased likelihood of proliferation of nuclear weapons. How does the U.S. DOE intend to safeguard the sensitive enrichment technology in a transfer to the private sector?
Answer:	We believe a privately-owned uranium enrichment enterprise could be pursued within existing Government policies and procedures to protect U.S. non-proliferation interests. If a private sector enrichment enterprise were to evolve, the Government would take steps to assure that U.S. non-proliferation interests continue to be safeguarded. These Governmental actions would result from coordination among several agencies (including the Departments of Energy, Commerce, and State; the Arms Control and Disarmament Agency; and the Nuclear Regulatory Commission) in the areas of classification of sensitive technology, licensing, facility safeguards, security, and export control.

QUESTIONS FROM SENATOR WENDELL FORD

Question 25: What will be the impact on the price of nuclear electricity of imposing the full restrictions on use of foreign uranium authorized in Section 112 of the Amendment? (Amendment to S1004)

Question 26: What added sales would imposition of these restrictions cause for domestic uranium producers in each of the next 5 years?

Answer: We are unable to answer these questions without an in-depth analysis, which has not been made.

QUESTIONS FROM SENATOR WENDELL FORD

Amendment 1729 to S. 1004

Question 27:	When all refunds are taken into account, what is the estimated annual cost to the Federal government of Title II of the amendment over the next 5- and 10-year periods?
Answer:	The amendment to S. 1004 specifies the Federal contribution to the Title II uranium mill tailings fund as $350 million. Estimates of total contributions to the fund compared to the maximum reimbursements permitted indicate that the full amount of the fund is likely to be required for reimbursements, assuming all eligible mill owners participate. This would mean the Federal cost would be the full $350 million. The amendment does not specify the annual rate at which the Federal contribution is to be made, so annual Federal expenditures would be a function of how rapidly mill owners carried out cleanup projects and requested reimbursement. The cost of administering the proposed Uranium Mill Tailings Fund, based on our experience in administering the Nuclear Waste Fund, is roughly estimated to be $720,000 per year. Costs for reimbursement for thorium site cleanup cannot be estimated; the Department has no information on the number of such sites or the amount of tailings which may be eligible for reimbursement.

QUESTIONS FROM SENATOR WENDELL FORD

Amendment 1729 to S. 1004

Question 28:	In the Administration's view, does title II of the amendment assign adequate financial responsibility to uranium mill owners and licensees for mill tailings cleanup?
Answer:	Although the amendment makes substantial improvements in the assignment of financial responsibility, the Department still questions the premise of legislation which would require U.S. nuclear utilities and the Federal Government to pay costs associated with the reclamation of currently licensed, commercial facilities.

QUESTIONS FROM SENATOR WENDELL FORD

Uranium Enrichment Services Criteria

Question 29: What will be the price of enrichment services offered under the new criteria? How does this price compare with current prices offered by URENCO, EURODIF, the Soviet Union and for sales on the secondary market?

Answer: The Department is committed to offering competitive prices for enrichment services in the future. As our existing price is higher than our competitors offer, our current plan is to continue annual price reductions for the next several years until our price is comparable with our competitor's prices.

QUESTIONS FROM SENATOR WENDELL FORD

Uranium Enrichment Services Criteria

Question 30:	What are your price projections for the remainder of the century for the U.S. and for each other supplier in question 1?
Answer:	Urenco and Eurodif are currently offering enrichment services at prices in the range of about $100 per SWU with the possibility of further price reductions in the 1990's with deployment of new technology. DOE plans to enter that competitive price range in the next several years and to stay in the competitive price range through the turn of the century and beyond.

QUESTIONS FROM SENATOR WENDELL FORD

Uranium Enrichment Services Criteria

Question 31(a): When do current utility and foreign customer contracts with the U.S. Uranium Enrichment Program expire?

Answer: DOE currently holds 67 utility services (US) enrichment contracts, 43 with domestic and 24 with foreign utilities. These contracts cover the requirements of reactors operated by these utilities for the life of the reactor or 30 years, whichever is less. However, the US contracts contain provisions which allow customers to cancel their contractural obligation with DOE at no cost with 10 years notice. Therefore, these contracts effectively cover the enrichment needs of DOE's customers on a firm contractual basis for only the next 10 years, i.e., through FY 1995. In addition, the cost of terminating the US contracts in the latter part of this 10-year period is relatively small and, therefore, represents a potential for contract cancellation in the post-FY 1990 time period. In addition to the US contracts, 9 utilities still hold requirements-type contracts with DOE; however, deliveries under these contracts have been terminated for about the next 10 years and DOE does not expect any significant sales from these sources.

QUESTIONS FROM SENATOR WENDELL FORD

Uranium Enrichment Services Criteria

Question 31(b): Please provide the Subcommittee with a schedule showing the volume (in SWU), percentage and cumulative percentage of current enrichment contracts expiring in each year between 1986 and 2000.

Answer: Currently there are three contracts which will expire between FY 1986 and FY 2000 as shown below:

Reactor	Annual kSWU Del.	Percentage of DOE Market	Date of Expiration
Kernkraftwerk Leibstadt	117	0.5	10/01/86
Borssele (Netherlands)	70	0.2	9/30/88
Stade (Germany)	69	0.2	10/01/91

As indicated in the previous answer, the customers may cancel their obligation to purchase enrichment services from DOE at no cost after FY 1995. Therefore, all contracts currently held by DOE could be terminated by 1996 if customers so elect.

QUESITONS FROM SENATOR WENDELL FORD

Uranium Enrichment Services Criteria

Question 32:	Provide the Subcommittee with your comments on the attached analyses performed by the Congressional Budget Office and the Congressional Research Service.
Answer:	The Congressional Budget Office (CBO) analysis has three sections. The first section concentrates on enrichment price competition in the world market. We agree with the CBO conclusion that the enrichment market is price sensitive and will likely remain so for the foreseeable future. The second section presents CBO's analysis of four U.S. pricing mechanisms and the potential impact of each on our competitive situation. Option 1 analyzes price using a 10-year average cost approach. CBO concludes that prices from the Department's gaseous diffusion plants (GDP's), stated in 1986 dollars, could reach \$93 per SWU and from AVLIS could be \$80 per SWU. We believe the GDP's alone are capable in the 1990's of allowing prices in the \$85 to \$90 per SWU range and AVLIS in the \$60 per SWU range after the year 2000. Option 2 would use the same methodology as Option 1 except the interest rate would be reduced from about 10 percent to 5 percent. DOE agrees that the applicable interest rate used to impute interest needs to be revised. We have concluded that a 6.3 percent rate is the most

Answer 32
(continued):

appropriate rate to use to represent the cost of money to the Government in years when net appropriations were received for the enrichment program. Option 3 is to price based on marginal costs. DOE believes there is a place for marginal cost pricing as long as our competitive position is enhanced and cost recovery is achieved. Over the past 2 years, we have successfully offered prices based on marginal costs and have been extremely successful in capturing sales and generating net positive cash flow for the program. Option 4 would keep prices high in the near-term when customers have already committed to purchase from DOE and lower the price in later years when firm commitments do not exist. DOE does not support this option since it would certainly lead to customer terminations, thus eroding our long-term sales base and the ability to recover costs.

The third section provides CBO's analysis of the impact on the Federal budget of each of their four pricing options. We agree with their overall conclusion that pricing and investment options can serve either of two goals--short-term deficit or long-term competitiveness. CBO's analysis shows that long-term competitiveness and cash flow positions are maximized by offering competitive prices and deploying advanced technology although in the short-term this strategy

Answer 32 (continued): does not maximize revenues. The DOE strategy attempts to carefully balance the goals of deficit reduction and long-term competitiveness.

The report by the Congressional Research Services (CRS) describes the DOE cost accounting, pricing, and cost recovery in the uranium enrichment program. The situation from the Department's perspective has changed since the CRS report was issued in October 1985. DOE's position and comments on these issues are best described in the April 25, 1986, Federal Register notice which provides a complete description of these issues.

QUESTIONS FROM SENATOR WENDELL FORD

Uranium Enrichment Services Criteria

Question 33: What prices for enrichment services would DOE be offering with various alternative payback options besides the one you have chosen? Include zero payback and $260 million per year payback.

Answer: DOE plans to offer competitive prices as described earlier. Amounts will be available for payment to the Treasury by maximizing sales and through continued program cost reductions. Further, we are evaluating prospects for private sector involvement in enrichment R&D and new enrichment capacity.

URANIUM PRODUCERS OF AMERICA
1201 PENNSYLVANIA AVENUE, N. W.
P. O. BOX 7566
WASHINGTON, D. C. 20044

May 8, 1986

The Honorable Pete Domenici
United States Senate
SD 434
Washington, D.C. 20510

Dear Senator Domenici:

Following my testimony before the Senate Subcommittee on Energy Research and Development held Thursday, April 10, 1986, you requested answers to a series of questions concerning the viability of the domestic uranium industry. This letter provides answers to your questions, and to questions submitted by Senator Ford on S.1004 amendments.

Senator Domenici's Questions

Question 1

> The Trade Representative, Mr. Yeutter, did not recommend any import restriction be taken in response to Secretary Herrington's finding of non-viable of the uranium industry. Yet, in your testimony you stated that Canada requires its state-owned utilities to purchase all uranium requirements for 30 years into the future before allowing uranium exports. Would you submit documents to substantiate your statement? Did Mr. Yeutter look at other countries' import restrictions or just the unfair export practices?

Answer

In answer to the first part of your question, the following excerpts are taken from Uranium in Canada: 1984 Assessment of Supply and Requirements, published by the Canadian Department of Energy, Mines and Resources.

> Page 8, Section II REQUIREMENTS, a) Domestic Nuclear Power Program
>
> > " Canadian uranium policy requires that sufficient uranium be reserved for domestic use to enable each nuclear power reactor currently on-stream, or planned to come on-stream within the next 10 years, to operate at an average annual capacity factor of 80 per cent for 30 years from 1985, or from the in-service date of the nuclear unit, whichever is later."

b) Uranium Sales Commitments

> " Most of Canada's domestic needs for the short term are those required for the Ontario Hydro nuclear power program. Ontario Hydro's two principal uranium supply contracts were approved by the Government of Ontario in February 1978. These contracts, which are with Denison Mines Limited and Rio Algom Limited, will satisfy the bulk of Ontario Hydro's needs to the early part of the next century, with deliveries scheduled to continue until 2012 and 2020, respectively. Contracts are either in place or are under negotiation relating to most of the remaining domestic requirements to the end of the century. Total outstanding domestic commitments, as of early 1985, stood in excess of 77 000 tU."

A copy of the referenced report has been furnished to the Committee Staff, and copies of the pages from which the above excerpts were taken, along with Appendix 2 to the report, are attached.

Appendix 2 summarizes Canadian uranium export policy in more detail, including:

1. The 30-year domestic fueling requirement.
2. The requirement of government-approved floor prices in each uranium export contract sufficient to protect Canadian investment and employment.
3. The requirement of upgrading Canadian uranium to the maximum extent possible before export (at this time, uranium hexafluoride).
4. The requirement of Canadian government review of all export contracts.
5. The requirement for annual export license approvals by the Atomic Energy Control Board and the Department of External Affairs.

In answer to the second part of your question, the Uranium Producers of America submitted a letter to Mr. Yeutter dated December 12, 1985. A copy is attached.

We do not know the full scope of Mr. Yeutter's investigation, however, in the initial paragraphs of his December 26, 1985 letter to Secretary Herrington, he described his activities as follows:

> "This is one of the more difficult questions we have studied in recent months. It involves, as many trade issues do, trying to achieve a delicate balance of domestic industry concerns, consumer interests, general economic policy, foreign, and, of course, trade policy concerns.......
>
> In reviewing the economic situation of the U.S. uranium industry, we drew on existing expertise within various U.S. Government agencies, including your own Department. Also included in our interagency working group were the Departments of State and Commerce and the Office of Management and Budget. We consulted with interested parties outside the Government on an informal basis, and our preliminary conclusions were reviewed by the Trade Policy Staff Committee, which includes all agencies concerned with international trade. While our review focused on the trade policy aspects of the situation, it included all relevant factors and thus our comments are framed within the broad context of the uranium issue."

A reading of Mr. Yeutter's response to Secretary Herrington does not discuss in any manner the import restrictions of such countries as Canada and France. A telephone check with Mr. Yeutter's office established that such import restrictions were not investigated. From our review of Mr. Yeutter's findings, it appears that his primary focus was the impact trade relief would have on United States trade and other relations with important trading partners.

Question 2

> You have stated that only about 6% of the tailings were generated under contracts entered after the Uranium Mill Tailings Radiation Control Act was enacted at the end of 1978, and far less were generated under contracts made since the regulation was issued. It indicates to me that the majority of the tailings were generated before the enactment of UMTRCA, therefore, the cost of cleanup was not anticipated before then. Is this correct?

Answer

Yes, this is certainly correct. The majority of the tailings were generated before the enactment of UMTRCA in 1978.

Approximately 56 million tons of tailings at certain of the active sites were produced under contracts with the Atomic Energy Commission before 1970. At many of the active sites these tailings cover 90 to 100 percent of the acreage containing the tailings.

Tailings produced between 1978 and 1983 when EPA proposed its regulations, were primarily produced for existing contracts. During this period, less than 30% of the total tailings were produced. As noted in my testimony, only about 6% of the tailings at active sites were generated due to contracts entered into after the passage of UMTRCA. The portion of tailings generated for contracts entered after the proposal of the EPA regulations in 1983 would be very small indeed.

Question 3

Have you noticed any upswing in the domestic uranium market as a result of DOE's actions? Has your prognosis for the future changed at all as a result of DOE's actions?

Answer

DOE's action allowing variable tails assay options without surcharges for enrichment customers contracting for 100% of their needs will be beneficial to utility enrichment customers and producers. This should also make DOE's enrichment services more competitive with foreign enrichment suppliers. However, this action by itself is currently insufficient to have any significant impact on the uranium market and, unless coupled with import limitations, will likely result only in additional quantities of foreign uranium supply to the United States.

DOE's decision to cease sales from the government uranium stockpile through the process of over-feeding the enrichment plants will not likely have any important affect on the uranium market; however, this could be an important step in ensuring that uranium needed for defense programs in the 1990's will be available.

Question 4

In your written statement, you commented on all aspects of the bill S.1004 except for the restructuring and eventual privitization of DOE's uranium enrichment enterprise. Do you have any opinions or suggestions as to how this might be best carried out?

Answer

In the long-run, some form of reorganization and restructuring of the DOE enrichment enterprise seems appropriate in order for U.S. enrichment plants to compete effectively in the current international market environment. I also believe that this should be a carefully staged process subject to continued Congressional review and approval, as provided for in S.1004, as amended, rather than a one-time privitization action as proposed by the DOE.

This is particularly important since many foreign enrichment customers view their enrichment contracts as agreements with the government of the United States, and assignment of these contracts directly, or indirectly, to private enterprise could pose important marketing problems for the enrichment plants. It might be possible for DOE to subcontract for a portion of its enrichment supplies through private companies and still maintain overall government control of enrichment contracting.

Also, we believe that the existing plants are well-operated and well-managed facilities, and there should be an appropriate transition period in any changes in the enrichment organization.

Further, any plan of reorganization should consider national security as a very important aspect in its development.

We believe that future enrichment plant operations and private investment in the enrichment plants is not practical over the long-run without a stable domestic uranium producing industry and uranium hexafluoride production capability that will provide an assured supply of feed material to U.S. enrichment facilities.

Question 5

How much money does the mining industry have available under NRC's surety arrangements? Based on EPA's regulations, would these funds be sufficient for the reclamation activities?

Answer

According to the NRC's Denver office, the surety arrangements for both agreement and non-agreement states with active sites total approximately $158,000,000. It is difficult to know the sufficiency of the total amount of the surety arrangements because of the different characteristics of the active sites, and uncertainty about future regulatory approval of specific engineered reclamation plans and programs. This is due to such variables as economy of scale and the location of the active site.

Also, a significant portion of the reclamation costs at the commingled active sites (i.e., those sites which hold both commercial tailings and tailings produced under government contracts in the 1950's and 1960's) should be the responsibility of the federal government.

Senator Ford's Questions

Question 1

> What will be the impact on the price of nuclear electricity of imposing the full restrictions on use of foreign uranium authorized in Sec. 112 of the amendment?

Answer

The cost of nuclear electricity would not be significantly impacted by imposition of restrictions as provided in S.1004, as amended. This is because uranium costs represent less than 10% of the total cost of nuclear electricity. Further, any cost differential between domestic and foreign uranium which might develop as a result of the domestic usage requirements provided in Section 112 of the amendment would be moderate and temporary.

Industry economists and the DOE have estimated that import restrictions of 50% could result in a temporary price differential between foreign and domestic uranium of $5-$10/pound of U_3O_8. If true, this could increase the cost of nuclear electricity by approximately 0.25 mills/KWH or by about 1/2% over a short period of time. However, this amendment would allow the continuance of a competitive domestic uranium industry during the 1990's, and, would likely result in lower uranium costs to U.S. utilities over the long term.

I would like to point out that other provisions of this legislation substantially reduce repayment requirements which may be imposed on the DOE enrichment facilities. Thus, overall, this legislation would reduce the cost of nuclear electricity significantly when compared to the current DOE program.

Question 2

> What added sales would imposition of these restrictions cause for domestic uranium producers in each of the next 5 years?

Answer

Most uranium is usually sold under long-term contracts over periods of 10-15 years into the future. Due to the existence of large inventories of uranium and existing commitments, which would be grandfathered under the proposed legislation, there would not be a significant increase in actual uranium delivered by domestic producers because of this legislation until about 1990; however, domestic producers would make new sales contracts over the next five years to fill a large share of presently uncommitted uranium demand during the 1990's. We estimate that the quantities of uranium contracted over the next five-year period for future deliveries which would likely otherwise be contracted to foreign suppliers would be approximately 100 million pounds of U_3O_8.

If domestic producers are not able to make new long-term sales contracts in the near future, it may not be feasible to continue current standby operations, and it may become necessary to reclaim and decommission most U.S. mines and mills.

Questions 3 and 4

When all refunds are taken into account, what is the estimated annual cost to the Federal government of title II of the amendment over the next 5- and 10-year periods?

In the Administration's view, does title II of the amendment assign adequate financial responsibility to uranium mill owners and licensees for mill tailings cleanup?

Answer

The federal government's contribution under Title II of the amendment would be obtained from revenues produced by the DOE enrichment program. No budgetary appropriations would be required.

The maximum cost to the federal government of mill tailings reclamation would be $350 million under the provisions of this legislation.

It is difficult to predict the exact amount of refunds until reclamation is actually undertaken, however, the producers believe that the average cost of reclamation for all active sites will be significantly less than the maximum limit of $5/ton provided for the fund. Our best estimate of the actual funding requirements placed on the government by this legislation is $150-200 million. This amount would be spread over approximately a ten-year period.

It should be noted, however, that the Government Accounting Office has already recognized an obligation on the part of the government to pay its share of the cost of reclamation of mill tailings produced exclusively for the government under AEC contracts. The GAO report stated in part:

> "The mill owners apparently acted in good faith in carrying out their responsibilities in meeting contract provisions and Federal regulations. Unfortunately, like the Federal Government, they did not recognize that the tailings were a potential health hazard and did not provide for their control. Now the Federal Government is requiring the mill owners to clean up all of

> the tailings, including those generated before the hazard was recognized. We believe it is unfair for industry to bear all of the costs in cleaning up the tailings."*

The GAO report specifically recommended that Congress provide assistance to mill owners by providing for a government contribution with respect to tailings generated under federal contracts. DOE itself has in the past acknowledged the inequity of failing to provide some form of contribution at active sites.**

As Frank McGinley, a former AEC contracting official, has stated in prior hearings, had the AEC realized tailings would pose a potential hazard or significant expense, the AEC would have shared in the costs.

The financial responsibility assigned to the uranium mill owners and licensees for mill tailings cleanup by Title II of the amendment reflects the fact that only 6% of the tailings were produced for contracts for the sale of uranium entered after the passage of the Uranium Mill Tailings Radiation Control Act of 1978. It also reflects the fact that a portion of the tailings were produced for sales to foreign customers who will not be required to assist financially in tailings reclamation. Title II of the amendment places a cap of $5.00/ton of tailings on reimbursements from the Uranium Mill Tailings Fund, thus reducing financial assistance to any owners or licensees of active sites that experience extraordinary costs of reclamation.

The amendment provides that the owners or licensees of active sites undertake full responsibility of future tailings because they will for the first time be able to price their product to reflect the new regulatory standards.

---

* GAO, "Cleaning Up Commingled Uranium Mill Tailings: Is Federal Assistance Necessary? at p.1 (1979).

** DOE, Answers to Questions on Commingled Tailings at Currently Operating Uranium Ore Processing Mills That Produced Uranium Under Atomic Energy Commission (AEC) Contracts, at p.16 (January 1979).

Thank you for the opportunity to submit our views on questions concerning the Uranium Mill Tailings Reclamation Act of 1985.

Yours very truly,

URANIUM PRODUCERS OF AMERICA

Robert P. Luke

Robert P. Luke
President

RPL:sjf
Attachments

URANIUM IN CANADA
1984 ASSESSMENT OF SUPPLY AND REQUIREMENTS

September 1985

its Cigar Lake discovery in the Waterbury Lake project. Drilling to delineate the deposit continued through 1983 and 1984 (see section on Uranium Exploration Activities) and on May 16, 1985, the Cigar Lake Mining Corporation (CLMC) was established as the consortium that will develop the deposit.

CLMC must first identify a suitable underground mining method and milling process, and complete an environmental impact study. Reportedly some $4 million will be spent on this development work during 1985/86. The weakness of the ground rock surrounding the ore zone and the radiation levels associated with such high-grade ore must be dealt with effectively so as to provide a safe working environment. The project partners are SMDC (50.75%), COGEMA (32.625%), Idemitsu Uranium Exploration Canada Ltd. (12.875%), and Corona Grande Exploration Corporation (3.75%), a wholly-owned COGEMA company.

Projected Production Capabilities

To provide an illustration of uranium availability in the short term, a projection of Canadian production capability to 1995 was made as shown in Table 5 and Figure 4. It can be characterized as an illustration of *firm* production capability. It is based on existing production centres only, as listed in Table 2. The projection assumes levels of production that can be practically and realistically achieved, under current circumstances. Actual levels of production from these centres will depend on a number of operational variables, and could be different from the capabilities projected.

Only resources in the measured, indicated and inferred categories, in the A plus B price range (recoverable at uranium prices of $150/kg U or less), were incorporated into the projection. The lives of these production centres could be extended, in certain cases, by the exploitation of associated higher-priced resources, or through additions of resources in the A plus B price range resulting from continued exploration and development work. No commitments have been made for the start-up of any production centres beyond those currently in operation.

Figure 5 illustrates diagrammatically the total quantity of Canada's mineable uranium resources subdivided into four resource categories. Each category is further subdivided on the basis of a consideration of production centre class, uranium price and the proximity of the resources to the production centres. Those quantities highlighted by a "star" represent Canada's known, lower-cost resources tributary to existing production centres; these quantities were used to determine the production capability scenario shown in Figure 4. It is readily apparent that significant tonnages of uranium, either in the higher-cost category or associated with prospective production centres, remain available for future exploitation. Moreover, the possibility of augmenting these resources through further discoveries is excellent, as reflected by estimates of resources in the prognosticated category (see Part Two, Supply Sources).

II REQUIREMENTS

a) Domestic Nuclear Power Program

Canadian uranium policy requires that sufficient uranium be reserved for domestic use to enable each nuclear power reactor currently on-stream, or planned to come on-stream within the next 10 years, to operate at an average annual capacity factor of 80 per cent for 30 years from 1985, or from the in-service date of the nuclear unit, whichever is later.

The determination of these uranium requirements is based on the estimates of installed nuclear generating capacity shown in Table 6. As of mid-year 1985, a total of 15 189 MWe of nuclear power capacity was either operating or committed for operation by 1995. In addition to the 15 189 MWe of capacity committed for operation by 1992, a second unit at Lepreau is envisaged, which would bring total installed capacity to 15 824 MWe by the year 1995.

Uranium requirements for the reactors represented by this 15 824 MWe of capacity, assessed on the basis of the fuel utilization design values for existing stations, are estimated to be some 67 000 tU for the prescribed 30 years. The introduction of improved burn-up characteristics could reduce these requirements by about 15 per cent. Annual requirements, including first cores for future reactors, are expected to grow from some 1 300 tU/year in 1984 to approximately 2 140 tU/year in 2000, as shown in Table 7.

A measure of domestic uranium resource adequacy is derived by comparing the 67 000 tonne domestic requirement calculated as described above with resource estimates for all Canadian uranium producers that are marketing uranium. For this purpose, only resources in the measured, indicated and inferred categories, recoverable at prices of $150/kg U or less, i.e., A plus B price categories, are considered. Moreover, the measured, indicated and inferred tonnages are adjusted with weighting factors of 1.0, 0.8 and 0.7, respectively, in recognition of the lower level of confidence that is placed (by definition) in the latter two categories. As of December 1984, Canada's aggregate Total Adjusted Recoverable Reserves (TARR), derived in this manner, amounted to some 210 000 tU.

A comparison of the calculated 30-year domestic fuel requirement with Canada's estimated Total Adjusted Recoverable Reserves (TARR) indicates that some 143 000 tU are theoretically available for export as illustrated in the first column of Figure 6. However, taking existing contract commitments into account, the surplus actually available for export under new contracts is reduced to about 63 000 tU, as shown in the second column of Figure 6.

b) Uranium Sales Commitments

Most of Canada's domestic needs for the short term are those required for the Ontario Hydro nuclear power program. Ontario Hydro's two principal uranium supply contracts were approved by the Government of Ontario in February 1978. These contracts, which are with Denison Mines Limited and Rio Algom Limited, will satisfy the bulk of Ontario Hydro's needs to the early part of the next century, with deliveries scheduled to continue until 2012 and 2020, respectively. Contracts are either in place or are under negotiation relating to most of the remaining domestic requirements to the end of the century. Total outstanding domestic commitments, as of early 1985, stood in excess of 77 000 tU.

Canadian producers shipped an estimated 9 693 tU in 1984 valued at $916 million. Over 85 per cent of these shipments were destined for the export market. The average price of export deliveries in 1984 was $Cdn 90/kg U. The spot market had a significant impact on the average

Appendix 2

CANADIAN URANIUM EXPORT POLICY

Canada's uranium export policy has been developed with a view to maintaining Canada's role as a reliable uranium supplier to its industrial partners over the long term, while seeking to ensure adequate supplies for domestic needs, to increase the return to Canadians from exportable surpluses, and to realize opportunities for further processing. There is also the special overriding requirement that Canada's uranium be used for peaceful, non-explosive purposes only. A broad range of countries, many of which import Canadian uranium, have entered into bilateral nuclear co-operation agreements with Canada, and have ratified the Non-Proliferation Treaty or made an equivalent non-proliferation commitment and accepted international safeguards on all of their nuclear activities.

Mechanisms are in place to monitor Canada's uranium supply capabilities and export commitment levels, to ensure that sufficient uranium is available to meet the 30-year fuelling requirements of all Canadian nuclear power reactors for a rolling ten-year period. Export contracts can be approved normally for periods of up to 15 years. However, in cases where the exports are associated with the sale of a CANDU reactor, contracts can be approved that provide that reactor with a 30-year supply of fuel.

All uranium export contracts are required to contain floor prices or similar mechanisms, which protect investment and employment in the uranium production facilities, and pricing terms that provide for an equitable balance of benefits and risks and that are in general agreement with those being obtained by Canadian and international producers for uranium under contracts of similar duration. Except under exceptional circumstances, uranium must be upgraded to the maximum extent possible in Canada before export, as long as Canada's conversion facilities have the capacity and are generally competitive. In practice, this means refining and conversion to uranium hexafluoride (UF_6).

Canadian producers are free to negotiate their own contracts, within the context of current Canadian export policy, but all export contracts are subsequently reviewed by federal government authorities to ensure that they meet the intent of the policy objectives. For contracts that are found to be consistent with these objectives, export licences an export permits are obtained annually from the Atomic Energy Control Board and the Department of Externa Affairs, respectively, pursuant t the provisions of the Atomic Energ Control Act and the Export and Impor Permits Act.

URANIUM PRODUCERS OF AMERICA
1201 PENNSYLVANIA AVENUE, N. W.
P. O. BOX 7566
WASHINGTON, D. C. 20044

December 12, 1985

BY HAND

The Honorable Clayton Yeutter
United States Trade Representative
600 17th Street, N.W.
Room 209
Washington, D.C. 20506

Dear Mr. Yeutter:

Enclosed please find a Statement of Position of the Uranium Producers of America concerning the upcoming report to be issued by your office pursuant to Secretary of Energy Herrington's request. It is accompanied by the Testimony of Ed Farley of our organization recently delivered in a hearing before the Subcommittee on Energy Conservation and Power, House Committee on Energy and Commerce.

Respectfully submitted,

Robert P. Luke /pcc/

Robert P. Luke
President, Uranium Producers
of America

December 12, 1985

STATEMENT OF POSITION OF THE URANIUM PRODUCERS OF AMERICA

In September of this year, the Department of Energy issued its determination that the domestic uranium industry was no longer viable and requested the United States Trade Representative to examine the role that imported uranium played in the domestic industry's problems. Leaders of the domestic industry have already testified before Congress and set out in detail the causes of the industry's problems and the major contributing role that unfairly priced imported uranium has played in causing those problems. See attached Testimony of Ed Farley, Chairman and Chief Executive Officer of Atlas Corporation and Vice President of the Uranium Producers of America. Here we propose only to recapitulate briefly the major points of that testimony and to suggest what the United States Trade Representative can do to help the industry.

Current State of the Industry

As the Secretary of Energy found, the uranium industry in the United States today is indeed non-viable. If remedial measures aren't taken quickly, it is in danger of complete extinction, an eventuality that would leave the nation entirely dependent on foreign sources of uranium supply. Employment in the industry has dropped from more than 22,000 workers in 1981 to less than 2000 today. Only three of twenty-five uranium mills in the country are still operating. Uranium production in the United States stands at an annual level of less than 10 million pounds -- only about one quarter of U.S. civilian nuclear requirements.

The Role of Imports

In its September report on the uranium industry's viability, the Department of Energy found that, even as early as the period 1982-1984, imported uranium already accounted for one-quarter to one-half of U.S. requirements, and that, by the early 1990's, the import share of the domestic market will increase to 60 to 70 percent. Almost all new purchases of uranium today are for foreign-origin material.

Fifty to sixty percent of the uranium imported today is from Canada, with most of the remainder coming from South Africa. Canadian imports enjoy an unfair price advantage primarily because major portions of the Canadian uranium industry are government owned and directly or indirectly subsidized by the Canadian government. Details of the subsidies are described in Mr. Farley's testimony, pp. 10-11. In addition, Canadian uranium is offered for sale in the United States at prices far below home-market prices. The principal Canadian nuclear utility pays $60 per pound for uranium, while Canadian production is sold in the U.S. in the $15 to $18 range. Although the United States currently has no restrictions in place on imports of Canadian uranium, Canada imposes a 100 percent domestic content requirement on utilities, thus effectively closing its markets to United States producers.

South African uranium imports are also unfairly priced because they are largely a co-product of gold mining operations, which absorb the bulk of the allocation of mining costs. Thus the profits on gold production effectively subsidize South African uranium imported to the United States. In addition, South Africa markets, prices, and allocates its uranium through a government instrumentality, Nufcor.

The Need for Import Restrictions and Proposed Recommendations

The loss of an independent domestic uranium industry would have serious adverse consequences for national security and for the goal of national energy independence, and would be a serious blow to the economy as well. Some remedy in the form of restrictions on unfairly priced imports is desparately needed. Traditional import-relief proceedings such as antidumping or countervailing-duty proceedings are expensive, cumbersome, time-consuming and fraught with technical legal difficulties. Moreover, any relief gained through these procedures is likely to be too little and come too late.

The Trade Representative should make it clear in its report that import relief is justified and is needed now. Two methods for affording such relief are already at hand: (1) Under Section 161(v) of the Atomic Energy Act, DOE is required to restrict enrichment services for foreign-source uranium "to the extent necessary" to protect the viability of the industry, and USTR should strongly recommend that DOE should immediately impose such restrictions; (2) USTR should recommend and support passage of legislation, already introduced in bills pending before Congress, requiring all U.S. government purchases of uranium to be from domestic sources and imposing limits on importation of uranium, whether enriched or unenriched, from all foreign sources. Nothing less is sufficient to give the industry the kind of relief it needs.

These recommendations can be made in conjunction with proposals for traditional import relief proceedings, but such proceedings alone are not enough. USTR has been called upon to study the situation and to submit its assessment. DOE and Congress should be advised first and foremost of the pressing need for immediate action to implement the proposed recommendations suggested above.

APPENDIX II

Additional Material Submitted for the Record

UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

RESOURCES, COMMUNITY,
AND ECONOMIC DEVELOPMENT
DIVISION

APR 2 9 1986

The Honorable Pete V. Domenici
Chairman, Subcommittee on Energy
Research and Development
Committee on Energy and Natural
Resources
United States Senate

Dear Mr. Chairman:

At the Subcommittee's April 10, 1986, hearing on uranium and uranium enrichment issues, you requested that the General Accounting Office submit information for the hearing record. As you know, we have conducted a number of reviews of the Department of Energy's (DOE's) uranium enrichment program over the years. As a result of these efforts, we believe there are several key documents that will be useful to the subcommittee in its evaluation of the nation's enrichment program. Therefore, in response to your request, we are submitting this letter and the following documents for inclusion in the hearing record:

--Our February 19, 1986, legal opinion on the consistency of DOE's proposed uranium enrichment services criteria with the Atomic Energy Act requirements for the enrichment program;

--Our February 19, 1986, testimony before the Subcommittee on Energy Conservation and Power, House Committee on Energy and Commerce, concerning the proposed criteria's appropriateness, legality, and impact on future congressional oversight;

--Our December 11, 1985, testimony submission to the Subcommittee on Energy Conservation and Power, House Committee on Energy and Commerce, focusing on the government's unrecovered enrichment costs; and

--Our December 27, 1984, legal opinion which provides a detailed analysis of the legislative history of the statutory provision governing the program and of the 1973 amendments to the criteria.

Members of my staff who attended the hearing have informed me that there was considerable discussion between Subcommittee members and DOE witnesses concerning the government's unrecovered enrichment costs. As you know, we have reported that the unrecovered government costs in the uranium enrichment program as of the end of fiscal year 1984 were about $7.3 billion. We have also indicated, however, that in reevaluating the enrichment program's basic purpose and structure the Congress and the executive branch should

--agree on the amount of unrecovered enrichment costs to be repaid to the Treasury,

--define program objectives that take into account the realities of the enrichment market place, and

--examine alternatives to full-cost-recovery pricing that provide DOE greater flexibility to compete in today's environment.

Finally, we believe DOE's proposed revision to the uranium enrichment services criteria serves a useful purpose. It places in the public record DOE's objectives for the program, the flexibility it believes is needed to allow it to compete in the world marketplace, and a clear position on the amount of unrecovered government costs that it plans to recover from future program revenues. We have consistently stated that these issues need to be considered in any reevaluation of the uranium enrichment program. However, as we indicated in our February 19, 1986, testimony, we believe that program changes involving such a major redirection of the uranium enrichment program should be accomplished by legislative changes with criteria subsequently developed that flow logically from and are consistent with the legislation.

In our legal opinion of the same date we concluded that DOE's proposed uranium enrichment services criteria are contrary to some basic and significant elements of the letter and legislative history of the statute governing the substantive requirements of the uranium enrichment program. Therefore, despite recognizing that the economic circumstances of the enrichment market have changed, and without regard to the policy merits of DOE's proposal, it cannot legally be accomplished through rulemaking. Thus, we recommended that the policy changes reflected in DOE's proposed revised criteria be introduced in the form of a bill in the Congress and formally enacted before any further attempt is made to implement them.

Please contact my office if you desire additional information.

Sincerely yours,

J. Dexter Peach
Director

Enclosures - 4

COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON D.C. 20548

B-207463

February 19, 1986

The Honorable Edward J. Markey
Chairman, Subcommittee on Energy
Conservation and Power
Committee on Energy and Commerce
House of Representatives

Dear Mr. Chairman:

By letter of February 6, 1986, you requested that GAO provide a legal opinion on the consistency of the Department of Energy's (Energy) proposed revised uranium enrichment services criteria with the requirements of law. These proposed criteria are set forth at 51 Federal Register 3624 (January 29, 1986). You also requested that we provide this opinion in time for your hearings scheduled for February 19, 1986. We have here set forth the major issues of legal concern, but in light of the time constraint, we did not solicit Energy's views.

In summary, we have concluded that Energy's proposed revised uranium enrichment services criteria are contrary to some basic and significant elements of the letter and legislative history of the statute governing the substantive requirements of the uranium enrichment program. Therefore, despite recognizing that economic circumstances of the enrichment market have changed and whatever the policy merits of Energy's proposal, it cannot legally be accomplished through rulemaking. We recommend that the policy changes reflected in Energy's proposed revised criteria be introduced in the form of a bill in the Congress and formally enacted before any further attempt is made to implement them.

More specifically, the primary substantive requirements of Energy's uranium enrichment program are set forth in subsection 161(v) of the Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2201(v). That provision prescribes, in relevant part, that:

1. "any prices established under this subsection shall be on a basis of recovery of the Government's costs over a reasonable period of time";

2. prices for services provided "shall be established on a nondiscriminatory basis";

3. Energy, "to the extent necessary to assure the maintenance of a viable domestic uranium industry, shall not offer such services for source or special nuclear materials of foreign origin intended for use in a utilization facility within or under the jurisdiction of the United States";

4. Energy "shall establish criteria in writing setting forth the terms and conditions under which services provided under this subsection shall be made available"; and

5. before Energy establishes such criteria, the proposed criteria shall be submitted to the appropriate authorizing committees of the Congress, and a period of 45 days shall elapse while Congress is in session.

In addition, the reports of the Joint Committee on Atomic Energy accompanying the enacted subsection 161(v) set forth the Joint committee's view on the terms and conditions that should be included in the criteria: "Included among these 'terms and conditions' would be such matters as the charges for enrichment services, the conditions under which such services would be offered, and the general features of standard contracts for uranium enrichment services." H.R. Rep. No. 1702, 88th Cong., 2d Sess. 16 (1964); S. Rep. No. 1325, 88th Cong., 2d Sess. 16 (1964).

The proposed revised uranium enrichment services criteria and accompanying Supplementary Information are not consistent with the statute or the Joint Committee's advice in the following major respects:

1. The criteria provide that henceforth Energy's primary pricing objective of the enrichment program is maintenance of Energy's long-term competitive position,

   a. relegating to a secondary objective the statutory requirement that the Government's costs be recovered over a reasonable period of time;

   b. rejecting the concept of full cost recovery of the Government's investment, which had been implemented in practice for more than 15 years and had been endorsed by the Congress, Energy and its predecessor agencies, and GAO;

   c. explicitly stating that Energy will not recover from customers in excess of $4 billion of prior Government investments in the program; and

   d. asserting that the new standard for cost recovery is only "appropriate" Government costs, which Energy states will

> only be those actually incurred in providing enrichment services to current civilian customers.

2. The criteria provide that prices will be individually negotiated, and they fail to set forth any fixed price or pricing mechanism, contrary to the Joint Committee's directive that "the charges for enrichment services" are to be set forth in the criteria.

3. The criteria fail to make provision for any standard contracts or to set forth the material general features to be contained in contracts, contrary to the Joint Committee's directive that the "general features of standard contracts for uranium enrichment services" are to be set forth in the criteria.

In addition, we have reservations about (1) whether the statutory requirement for assurance of nondiscrimination can be satisfied in practice if the proposed criteria are implemented as reflected in the Supplementary Information accompanying them, and (2) whether Energy has satisfied the statutory requirement regarding enrichment of uranium of foreign origin. This latter issue is currently being litigated before the U.S. District Court in Colorado.

COSTING

The proposed revised uranium enrichment services criteria are premised on the basis that the recovery of the Government's full costs of providing enrichment services is not required, and that "Congress granted [Energy] considerable discretion to determine, in the first instance, the best pricing approach and which costs are appropriate for recovery in an ever changing environment." 51 Fed. Reg. 3226 (January 29, 1986). We believe Energy is in legal error on this matter.

As you know, at the request of your subcommittee, we rendered a legal opinion (B-207463, December 27, 1984) in which we concluded that full cost recovery, including depreciation, was statutorily required after the 1970 amendment to subsection 161(v) of the Atomic Energy Act of 1954, 42 U.S.C.

§ 2201(v).[1] A copy of this opinion is enclosed for your convenience.

Footnote 5 to the Supplementary Information accompanying Energy's proposed criteria revisions specifically rejects this full cost recovery standard. In so doing, Energy relies extensively on the flexibility referred to in the 1964 legislative history when the Private Ownership of Special Nuclear Materials Act[2] was passed, adding subsection 161(v) to the Atomic Energy Act. The pricing standard provided in that act was admittedly the flexible one of "reasonable compensation to the Government." However, subsection 161(v) was amended in 1970[3] specifically to change the pricing standard to one of "recovery of the Government's costs over a reasonable period of time." It is the legislative history associated with the 1970 amendment that is now relevant and not that of the predecessor version of the statute.

As pages 6 and 7 of Appendix III to our December 27, 1984 legal opinion more fully explain, in the reports[4] of the Joint Committee on Atomic Energy associated with the 1970 amendment, the Joint Committee explicitly affirmed a GAO legal interpretation[5] of the meaning of subsection 161(v) as the Committee's intended meaning of the new statutory language requiring "recovery of the Government's costs over a reasonable period of time." GAO's opinion required the recovery of costs in every instance except one, namely, the situation for which the Conway Formula had been devised to deal with the reduction or possible elimination of the military need for enriched uranium. Flexibility and consideration of the national interest were directed specifically and solely to this particular problem. As is explained in footnote 1 to this opinion, the interim period for which the Conway Formula applied expired in 1976 and is no longer relevant. Consequently, under the 1970 amendment to subsection 161(v) and its legislative history, full cost recovery is required.

---

[1] As is more fully explained in that opinion, there was one exception specifically provided for in the legislative history of the 1970 amendment; namely, where the Conway Excess Capacity Formula was applicable. However, this exception is no longer relevant, because the interim period in which the Conway Formula applied expired in 1976 when Energy exceeded 75 percent of production capacity from its gaseous diffusion plants.

[2] Public Law No. 88-489, approved August 26, 1964, 78 Stat. 603.

[3] Section 8 of Public Law No. 91-560, approved December 19, 1970, 84 Stat. 1472, 1474.

[4] H.R. Rep. No. 1470, 91st Cong., 2d Sess. 2 (1970); S. Rep. No. 1247, 91st Cong., 2d Sess. 2 (1970).

[5] B-159687, July 17, 1970 entitled Review of Proposed Revisions to the Price and Criteria for Uranium Enrichment Services, at 9, reprinted in Uranium Enrichment Pricing Criteria, 91st Cong., 2d Sess. 161-238 (June 16 and 17, 1970).

GAO continues to believe that under existing statutory constraints, Energy does not have the legal flexibility to exclude unilaterally any government costs from its prices given the full cost recovery pricing requirement. The general tenor and a number of specific provisions of the proposed criteria contravene this legal requirement. For example, proposed 10 C.F.R. § 762.5 provides for recovery of only "appropriate" Government costs, with an implicit right reserved to Energy to determine what costs are appropriate. In this connection, Energy states in the Supplementary Information accompanying the proposed criteria revisions that:

> "The costs of items which are not, and most likely will not, be used in providing enrichment services to current civilian customers are not appropriate for consideration in determining the extent to which Government's costs are recovered over a reasonable period of time. [Energy] has determined that none of the costs of the Gas Centrifuge Plants and only forty percent of the costs of the Gaseous Diffusion Plants are used to provide enrichment services to civilian customers. Accordingly, only these latter costs are appropriate for determining the extent to which the Government's costs are recovered over a reasonable period of time."

51 Fed. Reg. 3628 and 3629 (January 29, 1986).

Our December 27, 1984, opinion addressed the legality of the exclusion from cost recovery and prices of the $1.2 billion of undepreciated value attributable to unused capacity of the gaseous diffusion plants. We held that this write-off for pricing purposes of undepreciated plant and capital equipment, so as to obviate the need for customer payments of related depreciation and imputed interest as part of the fee for enriching services, violates the cost recovery requirement of subsection 161(v) of the Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2201(v). We have an open request from this subcommittee for a legal opinion on Energy's exclusion from current and future prices of its investment in the Gas Centrifuge Enrichment Plant (GCEP). We have formally requested of Energy any basis for its actions which would differentiate GCEP from our conclusions regarding the unused plant capacity of the gaseous diffusion plants. We have received no response from Energy, and we are aware of no distinguishing factors which would justify a different GAO result on the exclusion of GCEP costs from Energy's pricing formula.

These so-called write-offs result in a shifting of more than $4 billion of program costs from enrichment customers to the Government. This in effect constitutes a subsidization of the enrichment program in contravention of the Atomic Energy Act of 1954, as amended, and its legislative history. See Uranium Enrichment Service Criteria and Related Matters, Hearings Before the Joint Committee on Atomic Energy, 89th Cong., 2d Sess. 29, 33, 121, 319, 517 and 518 (August 2, 3, 4, 16 and 17, 1966).

We held in our December 27, 1984 legal opinion and still find that in order for enrichment program assets to be legally written-off and not recovered in the service price from customers, Congress must amend the Atomic Energy Act to authorize it. A criteria change will not suffice, since the criteria must be in accord with the statute.

PRICING

Proposed 10 C.F.R. § 762.4 provides:

> "[Energy] shall negotiate prices in individual enrichment service contracts in accordance with an overall approach intended to maintain the long-term competitive position of [Energy] while obtaining the recovery of the Government's costs over a reasonable period of time."

51 Fed. Reg. 3631 (January 29, 1986). In addition, in the Supplementary Information accompanying the proposed revised criteria, Energy states that this "approach will permit [Energy] to pursue a vigorous program to regain market share." 51 Fed. Reg. 3628 (January 29, 1986). Elsewhere in that statement, Energy asserts that the Atomic Energy Act "does not mandate any particular form of pricing. Rather, it grants [Energy] considerable flexibility to determine what prices best achieve the objectives of [Atomic Energy Act], including

recovery of the Government's costs over a reasonable period of time." Id.

Whatever the policy merits of this proposed pricing approach of Energy, it is inconsistent with the Atomic Energy Act and its legislative history governing the substantive requirements of the uranium enrichment program.

Subsection 161(v) of the Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2201(v), provides that "any prices established under this subsection shall be on a basis of recovery of the Government's costs over a reasonable period of time." Moreover, the reports of the Joint Committee on Atomic Energy accompanying enactment of subsection 161(v) directed that "the charges for enrichment services" be set forth in the criteria. H.R. Rep. No. 1702, 88th Cong., 2d Sess. 16 (1964); S. Rep. No. 1325, 88th Cong., 2d Sess. 16 (1964).

Energy's proposed pricing approach chooses as primary pricing objectives of the program principles which are not referred to in the Atomic Energy Act or its legislative history--namely, the maintenance of Energy's long-term competitive position and pursuing a vigorous program to regain market share. On the other hand, it relegates to a secondary objective the primary statutory pricing requirement of obtaining the recovery of the Government's costs over a reasonable period of time. Moreover, the charges for enrichment services are not set forth in the proposed criteria as directed by the Joint Committee.[6] Rather, there is to be no fixed price or pricing mechanism. 51 Fed. Reg. 3628 (January 29, 1986). Energy plans to negotiate prices in individual enrichment services contracts.

Energy's new pricing approach has no particular sanction in present law nor was it contemplated by the committees considering the legislation. Accordingly, whatever its policy merits, in our view, it should not be accomplished through rulemaking. This major reorientation of pricing policy and practice should only be legally accomplished by amendment of the Atomic Energy Act's pricing provisions.

---

[6] We recognize that current enrichment service criteria also do not specify a particular price for enrichment services. See 44 Fed. Reg. 28875, 28876 (May 17, 1979). However, they provide for a pricing mechanism. They specify the costing elements to be included in the price, and were based on full recovery of the Government's costs and the prohibition on the making of a profit. Accordingly, the service charge or price was whatever was required to recover the listed costs over a reasonable period of time.

OTHER TERMS

Subsection 161(v) of the Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2201(v), provides that Energy "should establish criteria in writing setting forth the terms and conditions under which [uranium enrichment] services provided under this subsection shall be made available." In addition, the reports of the Joint Committee on Atomic Energy accompanying the enacted subsection 161(v) state:

> "Included among these 'terms and conditions' would be such matters as the charges for enrichment services, the conditions under which such services would be offered, and the general features of standard contracts for uranium enrichment services." (Emphasis added.)

H.R. Rep. No. 1702, 88th Cong., 2d Sess. 16 (1964); S. Rep. No. 1325, 88th Cong., 2d Sess. 16 (1964).

In implementation of these requirements, the 1966 criteria specified two standard types of contracts--Firm Quantities Contracts and Requirements Contracts. The basic principles of each type were set forth along with the more significant provisions of the contracts. See 31 Fed. Reg. 16479 (December 23, 1966). Similarly, the criteria adopted in 1973 and, in large part, still effective today identified the Fixed Commitment Contract as its primary contracting vehicle and specifically set forth some new basic principles and concepts to be employed in the contracts. 38 Fed. Reg. 12180, 12181 (May 9, 1973) and 44 Fed. Reg. 28875 (May 17, 1979).

Moreover, current criteria include many guidelines on contract features in general terms, which must or may be included in Energy's uranium enrichment contracts in detail. Examples are provisions concerning advance contracting, fixed commitments, advance payments, delivery schedules, chemical form and specifications of feed material, the basis on which charges for enriching services will be calculated, the basis on which charges for termination by the customer will be calculated, delivery, transfer of title, and others.

Under Energy's proposed revised criteria, this practice will no longer be continued. Energy will have no standard contracts. Moreover, the proposed criteria contain virtually no significant general features to be contained in contracts.

Prices are to be individually negotiated, as are termination charges and other contractual provisions. In addition, Energy explicitly states that "a contract can contain terms and conditions not specified in the criteria. No prohibition against a term or condition is intended by its non-inclusion in the proposed criteria." 51 Fed. Reg. 3629 (January 29, 1986). The only restriction is that "the terms and conditions in a contract cannot be inconsistent with the criteria." See proposed 10 C.F.R. § 762.14.

The purpose of the statutory requirement that the terms and conditions under which enrichment services will be provided be established in published criteria and the directive of the Joint Committee on Atomic Energy that the charges for services and general features of standard contracts be set forth in the criteria was to enable the exercise of some congressional control over the content of uranium enrichment contracts and enrichment prices prior to their becoming effective, as well as facilitating congressional oversight. Energy's proposed revised criteria severely limit all of these objectives. When Energy's predecessor (the Atomic Energy Commission) proposed very general criteria in 1973 excluding some of these elements, they were rejected by the Joint Committee on Atomic Energy. Several examples of statements made by committee members at that time are illustrative of their reaction:

1. "Senator Jackson. * * * the revised criteria omit any reference to the types and significant details of the contracts under which enrichment services will be provided." Proposed Changes in AEC Contract Arrangements for Uranium Enriching Services, Hearings Before the Subcommittee on Energy, Joint Committee on Atomic Energy, 93rd Cong., 1st Sess. 2 (March 7, 8, 26; and April 18, 1973).

2. "Representative Price. Since the significant features of the new types of contracts are not described in the criteria there appears to be nothing that would require the Commission to return to the Joint Committee should it decide to vary the terms and conditions under which it would provide the uranium enrichment services. This seems to be a substantial departure from the intent of section 161(v) * * *." Id., at 32.

3. "Representative Holifield. * * * What control do you feel the Joint Committee will have over the essential terms and conditions of this or any other contract for enriching services under the new criteria?

> "Mr. Allen [President, Yankee Atomic Electric Co., and Vice President, New England Electric System]. None.
>
> "Representative Holifield. Thank you. I came to the same conclusion. * * * The new criteria would eliminate any supervision of this committee over these things." Id., at 83.

We believe that the failure of Energy's proposed revised criteria to provide for standard contracts and to set forth their material general features is contrary to the intended structure and operation of the uranium enrichment program as reflected in the Atomic Energy Act and its legislative history.

NONDISCRIMINATION

Subsection 161(v) of the Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2201(v), requires that prices for enrichment services "shall be established on a nondiscriminatory basis." Proposed 10 C.F.R. § 762.7 provides:

> "The same prices, as well as other terms and conditions, shall be available to all similarly-situated customers on a nondiscriminatory basis, reflecting the cost of the enrichment services supplied to those customers."

Although the language of this proposed nondiscrimination criterion refers to the statutory language, we have reservations whether the statutory standard can be satisfied in practice if the proposed criterion is implemented as reflected in Energy's Supplementary Information and the other proposed criteria.

Energy's proposed revised criteria provide that it will negotiate price, as well as other terms and conditions of a contract. Not only will there be no fixed price, but no fixed price mechanism. There will be no standard contracts. Similarly, there need not be standardized terms and conditions for other aspects of a contract. Despite these circumstances, Energy states in the Supplementary Information accompanying the proposed criteria provisions that the statutory nondiscrimination provision means that "all customers * * * be afforded an opportunity to strike a bargain equal in attractiveness to those available to other customers." 51 Fed. Reg. 3629 (January 29, 1986). However, no provision is made in the criteria for disclosure of pricing and other contracting information to other customers when a particular contract is entered into.

In these circumstances, we have reservations whether the proposed criterion provision will assure in implementation the nondiscriminatory treatment required by the statute. This is a very different factual situation from that existing previously, when there were standard contracts, general features contained in these contracts, and a published price for services available to all customers.

CONCLUSION

For the above reasons, we have concluded that Energy's proposed revised uranium enrichment services criteria are contrary to the letter and legislative history of the statute governing the substantive requirements of the uranium enrichment program. Consequently, they cannot be legally accomplished through rulemaking, whatever their policy merits. We recommend that, if Energy wishes to continue to pursue the policy initiatives reflected in these proposed criteria revisions, these policy changes be introduced in the form of a bill in Congress and formally enacted before any further attempt is made to implement them.

Notwithstanding these conclusions, it must be recognized that the current market situation with regard to the sale of uranuim enrichment services is far different from conditions which prevailed at the time the full cost recovery requirement was enacted. As we have stated on a number of occasions in the past, there is a compelling need, because of the market changes and constraints imposed by full cost recovery pricing in the current market environment, for the executive branch and the Congress together to reexamine the fundamental purpose and structure of the uranium enrichment program.

Sincerely yours,

Milton J. Socolar

Acting Comptroller General
of the United States

Enclosure

UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C.

FOR RELEASE ON DELIVERY
EXPECTED AT 2:00 P.M.
FEBRUARY 19, 1986

STATEMENT OF
J. DEXTER PEACH
DIRECTOR, RESOURCES, COMMUNITY, AND ECONOMIC DEVELOPMENT DIVISION
BEFORE THE
SUBCOMMITTEE ON ENERGY CONSERVATION AND POWER
HOUSE COMMITTEE ON ENERGY AND COMMERCE
ON
THE U.S. URANIUM ENRICHMENT SERVICES PROGRAM

Mr. Chairman and members of the Subcommittee, we appreciate this opportunity to present our views on the status of the U.S. uranium enrichment program. At your request, we previously provided you with a copy of testimony that we prepared for the December 11, 1985, hearing which was postponed until today. I request that our earlier statement also be included in the hearing record.

Our earlier testimony emphasized our consistent position in recent years that the Congress and the executive branch need to reevaluate the basic purpose and structure of the enrichment program. We believe any reevaluation must include

--defining program objectives that take into account the realities of the enrichment market place,

--examining alternatives to full-cost-recovery pricing that provide the Department of Energy (DOE) greater flexibility to compete in today's environment, and

- --agreeing on the amount of unrecovered government enrichment costs to be repaid to the Treasury.

Our testimony also pointed out that the government's unrecovered enrichment costs at September 30, 1984, amounted to $7.3 billion.

On January 29, 1986, DOE released a proposed modification of the Uranium Enrichment Services Criteria (criteria), or the rules under which DOE provides uranium enrichment services. DOE's proposal represents a major redirection of program emphasis away from full cost recovery and standard contractual terms to increased emphasis on competition, recovery of less than all of the government's costs, and individually tailored contract terms and conditions. To the extent that these modifications represent the administration's view on the appropriate enrichment program objectives and structure for today's enrichment environment, they are a first step in facilitating the program reevaluation we have consistently called for in earlier reports and testimonies. We do, however, have concerns about:

- --the appropriateness of using modifications to the criteria to make major program changes as opposed to a legislative proposal and the related implications for the effectiveness of congressional involvement in the change process.
- --areas where the proposed criteria modifications in our view are in conflict with basic statutory requirements, and
- --possible limitations on future congressional oversight of the enrichment program if the criteria are adopted.

PERSPECTIVE ON THE ENRICHMENT PROGRAM

Let me again place in perspective the dilemma faced by DOE in managing the enrichment program. Today's uranium enrichment market is considerably different from the one that existed at the time the full-cost-recovery requirement for the U.S. program was established. Lower prospects for growth in the nuclear power industry coupled with foreign competition, the emergence of a secondary market for enriched uranium, and prices that were the highest in the world led to a steady deterioration of the program's competitive position. This environment is described in our December 11, 1985, statement.

To help curtail the continuing deterioration of its market share, DOE has taken a number of initiatives that have affected the repayment of the government's unrecovered enrichment costs. For example, in fiscal year 1984, DOE wrote off $1.2 billion of the remaining unrecovered government costs in the gaseous diffusion enrichment facilities. DOE estimated that this action lowered its enrichment price by about $10 per unit.

As indicated in our past reports and testimonies, some of DOE's initiatives to make the U.S. program competitive conflict with our interpretation of the cost recovery requirement stated in the enrichment program's governing statute--subsection 161(v) of the Atomic Energy Act of 1954, as amended. DOE maintains that the statute provides it discretion to determine which government enrichment costs should be recovered. Our position is that, absent a statute change, DOE does not have the flexibility to unilaterally exclude certain government costs--particularly capital investment costs--from its prices.

Because of the conflict between DOE's initiatives and our interpretation of the act, we have suggested that the executive branch and the Congress need to reevaluate the fundamental purpose and structure of the uranium enrichment program. Recent DOE decisions have intensified this need. For example, DOE decided not to include in its enrichment price, and thus not recover, the government's $2.8 billion in costs associated with the construction of the recently terminated gas centrifuge enrichment facility at Portsmouth, Ohio.

In preparing a criteria change, DOE states its belief that the existing criteria do not provide the basis to compete in today's marketplace. In essence, DOE's proposal represents its current view of the basic objectives of the enrichment program and how it should be structured to compete in today's enrichment market.

With this backdrop, let me briefly elaborate on our concerns with the criteria changes proposed by DOE.

APPROPRIATENESS OF USING A CRITERIA REVISION

In our view, legislation amending the Atomic Energy Act, rather than modification of the criteria, is the correct approach for effecting change in the uranium enrichment program of the scope embodied in DOE's proposed criteria. Moreover, we believe that aspects of the proposed criteria, which I will discuss in more detail in a moment, are in conflict with the program's governing statute.

The proposed criteria would, if implemented, result in a major redirection of the uranium enrichment program involving the writeoff of government assets and basic changes in DOE's approach for determining its costs and for negotiating enrichment services contract terms and prices. However, we are concerned that the process set out in the act for making criteria changes--submitting the changes to authorizing committees of the Congress for 45 days before they take effect--does not provide the Congress with a sufficient opportunity to review changes of this magnitude and explore alternatives to them.

In effect, this process requires the Congress to either accept DOE's proposed criteria modifications or to pass legislation prohibiting DOE from implementing them. Thus, for all practical purposes, DOE's use of a criteria revision to change basic program objectives serves to limit effective congressional participation in the reevaluation of the uranium enrichment program.

LEGALITY OF THE PROPOSED CRITERIA

There are three provisions in the proposed criteria that conflict with the statutory requirements governing the enrichment program. In addition, with respect to one other provision, we are concerned whether DOE can satisfy the requirements of the act. Pursuant to your request, we are providing a legal analysis of the proposed criteria which discusses these areas in detail.

First, the act requires DOE to recover the government's costs of providing enrichment services over a reasonable period of time. The proposed criteria, on the other hand, state that DOE will collect and repay to the Treasury about $3.5 billion of what DOE estimates is $7.5 billion in unrecovered government costs as of the end of fiscal year 1985. The remaining $4 billion, which basically consists of the investment in the gas centrifuge project and most of the undepreciated portion of the gaseous diffusion plants, would not be recovered. As we advised you in our December 27, 1984, legal opinion, a criteria change by itself does not provide, in our view, sufficient legal grounds for not recovering government enrichment costs from customers.

Second, the proposal defines costs to be recovered through charges for enrichment services as "appropriate government costs to the extent they reasonably relate to providing enrichment services to civilian customers." This permits DOE to determine that some government enrichment costs are not appropriate for recovery. Thus, it is inconsistent with the full cost recovery requirement now embodied in the Atomic Energy Act.

Third, the act requires DOE to set out in written criteria the terms and conditions under which it will provide enrichment services. In establishing this requirement, congressional committee reports stated that the "general features of standard contracts for uranium enrichment services" were to be set forth in the criteria. DOE's proposed criteria, however, do not do this. Rather, it permits the department to tailor each contract to the customer's needs, which could, in effect, eliminate the standardization which Congress intended.

Finally, the act requires DOE to establish prices for domestic customers on a nondiscriminatory basis. In this regard, DOE's proposed criteria state that it will not discriminate. However, the criteria also provides that DOE will negotiate prices and other contract terms and conditions with individual customers. Traditionally, one basic price has been available to all customers with the same contract type. Therefore, we have reservations whether the requirement of the act can be satisfied in practice if the criteria are implemented.

EFFECT ON CONGRESSIONAL OVERSIGHT

Over the years congressional oversight has been an important part of the uranium enrichment program. While DOE's proposed criteria, if implemented, would obviously not preclude congressional oversight, the proposal as written makes oversight difficult. The proposed criteria have been written in a manner that provide DOE maximum flexibility to operate the enrichment program, and they have few feedback provisions or accountability measures.

As I discussed earlier, for example, DOE would negotiate contract terms and prices on a customer-by-customer basis, prices would no longer be directly tied to recovery of the government's enrichment costs, and DOE would reserve to itself the prerogative of determining what government costs are appropriate for recovery through its prices.

Given this flexibility, benchmarks that have been useful in the past to monitor the program, such as a clear definition of what costs should be recovered, how prices will be determined, and the general approach to contract terms, would be removed.

Moreover, it is entirely possible that DOE would never again have to propose criteria changes and lay them before the Congress for review.

- - - -

In closing, Mr. Chairman, let me make several points. DOE's proposed criteria revision does serve a useful purpose in that it places in the public record DOE's objectives for the program, the flexibility it believes is needed to allow it to compete in the world marketplace, and a clear position on the amount of unrecovered government costs that it plans to recover from future program revenues. We have consistently stated that these issues need to be considered in any reevaluation of the uranium enrichment program.

As our testimony today states, we believe that program changes involving such a major redirection of the uranium enrichment program should be accomplished by legislative changes with criteria subsequently developed that flow logically from and are consistent with the legislation. In our testimony, we have highlighted areas where we believe the proposed criteria are in conflict with existing legislation and could possibly limit effective congressional oversight.

The criteria, of course, may be revised as DOE goes through its rulemaking process. Also, Congress may act based on concerns it has with the criteria. If DOE continues on its present course and completes its rulemaking process and allows the criteria as revised to lay before the Congress for 45 days, and if the Congress, having been made aware of DOE's criteria revisions and our concerns, takes no action to require change of the criteria, it would be difficult for GAO to raise objections about future DOE actions that are consistent with the revised criteria, absent further legislative direction by the Congress.

Mr. Chairman, this concludes my prepared remarks. I will be happy to respond to any questions at this time.

UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C.

FOR RELEASE ON DELIVERY
EXPECTED AT 9:30 A.M.
DECEMBER 11, 1985

STATEMENT OF
J. DEXTER PEACH
DIRECTOR, RESOURCES, COMMUNITY, AND ECONOMIC DEVELOPMENT DIVISION
BEFORE THE
SUBCOMMITTEE ON ENERGY CONSERVATION AND POWER
HOUSE COMMITTEE ON ENERGY AND COMMERCE
ON

THE U.S. URANIUM ENRICHMENT SERVICES PROGRAM

Mr. Chairman and members of the Subcommittee, we appreciate this opportunity to discuss the status of the U.S. uranium enrichment program. Our testimony today focuses on work we have done for this Subcommittee looking at the government's unrecovered enrichment costs. We will describe the basis for our calculation of the unrecovered government costs for enrichment services. Based on discussions with agency officials and information provided to us, we will also describe our best understanding of the Department of Energy's (DOE's) and the Office of Management and Budget's (OMB's) positions regarding the government's costs which they believe should be repaid by the enrichment program.

At the outset, it is important to recognize that the uranium enrichment program has faced severe problems for some years.

Today's uranium enrichment market is considerably different from the one existing at the time the full-cost-recovery requirement for the U.S. program was established. The lower prospects for growth in the nuclear power industry coupled with foreign competition and the emergence of a secondary market for enriched uranium have all affected the program. Further, with prices that had been the highest in the world, the program's competitive position was steadily deteriorating.

As indicated in our past reports and testimony, some of DOE's initiatives to make the U.S. program competitive conflict with our interpretation of the program's statutorily-based cost recovery requirement. We believe that under existing statutory constraints, DOE does not have the flexibility to unilaterally exclude certain government costs--particularly capital investment costs--from its prices. Because some of DOE's recent pricing initiatives, taken to make the United States competitive in the uranium enrichment market, are in conflict with our interpretation of the statutes, we have suggested that the executive branch and the Congress need to reevaluate the fundamental purpose and structure of the uranium enrichment program. With the recent decision to stop construction of the gas centrifuge enrichment plant in Portsmouth, Ohio--a plant in which the United States has invested some $3.5 billion--the need to reevaluate the statutory structure of the uranium enrichment program has intensified. Key elements we believe any reevaluation must address include:

--establishment of achievable program objectives taking into consideration the realities of both the domestic and international uranium enrichment markets and the cost to the U.S. government of maintaining a uranium enrichment program to satisfy such objectives;

--examination of alternatives to full-cost-recovery pricing that would provide DOE greater flexibility to develop pricing strategies that would facilitate the program's ability to effectively compete within the market parameters prescribed by the objectives established for the program; and

--agreement on the amount of unrecovered government costs that should be recovered from future program revenues giving thorough consideration to the past and current problems of the program.

Before describing the rationale for GAO's, OMB's, and DOE's position on the government's unrecovered enrichment costs, let me briefly describe the important changes that have occurred in the uranium enrichment market and the impact of these changes on DOE's program.

CHANGES IN THE ENRICHMENT MARKET

Originally, the United States held a near-monopoly position in the enriched uranium market. However, during the 1970's, the United States lost that position due to a number of factors. Beginning in the mid-1970's, competition developed as two European consortiums and the Soviet Union began supplying foreign nuclear facilities with enriched uranium. It was also during this period that prospects for the nuclear power industry in this country changed dramatically because of reduced growth in consumer demand for electricity and concern over health and safety issues. As a result, many nuclear plants were delayed and/or cancelled. Also, other nations' nuclear programs generally have not expanded as was once anticipated.

By the late 1970's, utilities, both foreign and domestic, found themselves committed to long-term contracts for enrichment services they no longer needed. This, in turn, led to the emergence of a secondary market in which those utilities holding surplus inventories have been willing to sell to other utilities generally at discounted prices. This changing market environment led to a steady deterioration of the U.S. uranium enrichment program.

In order to help curtail the continuing deterioration of its market share, DOE has taken a number of initiatives that have affected the repayment of the government's unrecovered enrichment costs. For example, in fiscal year 1984, DOE wrote off $1.2 billion of the remaining unrecovered government costs in the gaseous diffusion enrichment facilities. DOE estimated that this action lowered its enrichment price by about $10 per unit. In a December 27, 1984, legal opinion prepared at the request of this Subcommittee, we said that this exclusion of the write-off from DOE's prices violated the statutory mandate of the Atomic Energy Act of 1954, as amended, which requires DOE to recover the government's costs, including depreciation, through prices it charges customers for enrichment services. We also said that DOE's actions constitute a subsidization of the enrichment program in contravention of the act and its legislative history. We stated further that if such assets are to be written off, the Congress must amend the act, making clear our view that a change in the Uranium Enrichment Services Criteria would not suffice since the criteria must be in accordance with the statute.

Recently, DOE has not included in its current enrichment price of $125 per unit a factor for recovering about $3.5 billion of the government's costs to construct the gas centrifuge enrichment facility.[1] Thus, in addition to not recovering the $1.2 billion from its customers, DOE appears also to contemplate not charging customers for that portion of the unrecovered government costs relating to the centrifuge facility. According to DOE, if both of these capital costs were not excluded its enrichment price would be about $170 per unit. Clearly this would not be a competitive price in a market where other enrichment suppliers are now reportedly charging about $100 per unit.

Let me expand briefly on our view of the legal requirements governing the enrichment program's recovery of the government's enrichment costs.

RECOVERY OF THE GOVERNMENT'S ENRICHMENT COSTS

In providing enrichment services to its customers, DOE is required under subsection 161(v) of the Atomic Energy Act of 1954, as amended, to price its services so that the government's enrichment costs will be recovered over a reasonable period of time. Ten years was initially established as being a reasonable period and, over the years, it has been accepted as such by DOE and cognizant congressional committees. This pricing policy is generally referred to as the program's full-cost-recovery requirement. In addition, the same statutory provision requires DOE to establish criteria setting forth the terms and conditions under which enrichment services will be available, and requires DOE to submit the criteria, and any change therein, to the appropriate congressional authorizing committees for a 45-day review period prior to their taking effect. The criteria set forth the components of costs that are included in the price of enrichment services. These components include: electric power, other operating costs, depreciation of the government's capital expenditures for enrichment facilities, imputed interest on the unrecovered government investment, and other costs incurred in providing enrichment services like DOE administrative costs and enrichment plant security costs.

---

[1] At this subcommittee's request, GAO is developing a legal opinion on DOE's exclusion of these government costs from the enrichment price.

To recover the government's full enrichment costs, DOE's enrichment services price must recover operating and capital expenditures plus imputed interest costs. All of the enrichment program's operating and capital expenditures are funded with appropriations; however, there is one cost component included in the price for which appropriations are not made. This is the imputed interest cost.

Let me briefly discuss GAO's position with respect to the imputed interest cost component. GAO has long supported the inclusion of imputed interest as a cost of government-funded programs engaged in the performance of services or sales of property outside the government (Title 2, subsection I10 of GAO's Policy and Procedures Manual for Guidance of Federal Agencies). Imputed interest is an interest cost assigned to a particular in-house government investment alternative representing the cost of U.S. Treasury borrowings. Actual interest expenditures may not be incurred by the individual agency undertaking the activity. However, since the money used in the activity is not available to the Treasury for alternative programs, the Treasury resorts to borrowed funds and, in the process, incurs an interest expense.

GAO'S POSITION ON THE UNRECOVERED GOVERNMENT COSTS

In a report[2] to this Subcommittee in August 1984, we stated that the unrecovered government costs in the uranium enrichment program as of the end of fiscal year 1983 were about $6 billion. In calculating the unrecovered government costs in this program, GAO used the following methodology. First, the total government cost of providing enrichment services was determined. The total government cost is the sum of (1) the government's initial investment in the program, (2) appropriations, and (3) imputed interest. Second, the revenues generated by the program, which represent that portion of the government cost that has been recovered, were subtracted from the total government cost.

---

[2] Information on Repayment of the Government's Uranium Enrichment Program Costs and Audits of that Program's Financial Statements, (GAO/RCED-84-190; Aug. 10, 1984).

In updating our calculation of the unrecovered government costs, we utilized DOE's most current financial statements for the fiscal year ending September 30, 1984, and applied the same methodology as before. Therefore, in determining the total government cost, we start our calculation by recognizing the costs incurred by the government in establishing the enrichment program. When the program started in 1969, the government transferred an initial investment to the program of about $1.5 billion that was to be recovered in future enrichment prices. Beginning with fiscal year 1971 through the end of fiscal year 1984, the program received about $15.4 billion in appropriations for operating expenses and capital investment, and has imputed about $4.2 billion in interest expense. Thus, the total government cost subject to the program's cost recovery requirement, including the government's initial investment, has been about $21.1 billion. According to the enrichment program's financial statements, the government had recovered about $13.8 billion of these costs in revenues, leaving an unrecovered balance of about $7.3 billion as of the end of fiscal year 1984.

OMB'S POSITION ON THE UNRECOVERED GOVERNMENT COSTS

In recent months, OMB has been seeking an agreement with DOE on the amount of unrecovered government costs for the purpose of establishing a schedule for repayment to the U.S. Treasury. The agreed upon amount is to be repaid from program revenues.

Our most recent discussions with OMB last week indicated that OMB and DOE had still not reached any agreement on unrecovered government costs to be repaid to the Treasury. OMB officials indicated that the cost figures under consideration range from a figure of $788 million advanced by DOE to a figure of $6.7 billion. It is our understanding that the $6.7 billion is essentially equivalent to our calculation of $7.3 billion with the difference being attributable to our using the accrual basis of accounting and OMB using the cash basis.

DOE'S POSITION ON THE UNRECOVERED GOVERNMENT COSTS

As indicated above, DOE has recently determined the amount of unrecovered government costs which it proposes should be repaid to the Treasury. In making its calculation, DOE did not use the existing statutory and criteria requirements, and appears to have developed a new concept of unrecovered government costs in arriving at the amount which it would propose to send to the Treasury from program revenues.

DOE's position is that it is required to repay government costs of about $788 million. As we understand it, DOE believes it is only required to repay the government an amount equal to the program's total annual net outlays--the sum of the differences between annual program outlays and revenues--and the imputed interest on each year's net outlays. DOE basically defines net outlays as the difference between program outlays and revenues. In this way, DOE has concluded that between fiscal years 1969 and 1984, the total net outlays for the program were about $423 million and imputed interest expenses were about $365 million, for a total of about $788 million.

By not following existing statutory and criteria requirements in calculating the amount of government costs to be repaid, DOE does not, in our view, fully account for all government enrichment costs. Costs not accounted for primarily consist of the government's initial investment and a significant amount of the government's imputed interest expense.

- - - - -

In summary Mr. Chairman, DOE's uranium enrichment program continues to face difficult challenges. In our view, the program is now operating in a framework that is inconsistent with basic statutory requirements. But if pricing for enrichment services is done in accordance with our understanding of the legal requirements, it would be priced at a clearly uncompetitive level.

We will be pleased to work with you and other committees in your efforts to conduct the needed reevaluation of the statutory basis for the uranium enrichment program. As I stated at the outset of my testimony, the reevaluation should:

--include the establishment of achievable program objectives,

--examine alternative pricing strategies consistent with the new objectives, and

--specify the amount of unrecovered government costs to be recovered.

At the request of this Subcommittee and others, we will be providing additional information to the Congress evaluating the costs and benefits to the government of having a competitive enrichment program as is now envisioned by DOE, and on the costs and benefits of alternative types of programs.

Mr. Chairman, this concludes my prepared remarks. I will be happy to respond to any questions at this time.

COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON D.C. 20548

B-207463 December 27, 1984

The Honorable John D. Dingell
Chairman, Committee on Energy
and Commerce
House of Representatives

Dear Mr. Chairman:

This is in response to your joint request of May 11, 1984, along with Chairman Richard L. Ottinger, Subcommittee on Energy Conservation and Power, House Committee on Energy and Commerce, for our opinion on several questions related to the Department of Energy's (Energy) new Utility Services Contract for uranium enrichment services. Specifically, you asked:

1. What obligations have been and will be incurred by the Government as a result of the issuance of the Utility Services Contract and by any further execution of the contract?

2. What is the legality and propriety of the Department's actions with regard to the unilateral establishment of a ceiling price and implementation of accounting changes?

3. Is it within generally accepted accounting principles and/or the statutory requirements governing this program to:

(a) "write off" approximately $1.2 billion of Government investment in enrichment equipment, and

(b) to defer the recapture of depreciation expenses to an unspecified future date?

In addition, you subsequently informally asked that we include in our discussion (1) Energy's revaluation of its uranium feed stock from market price to acquisition cost and (2) whether any of Energy's foregoing actions were subject to the provisions of the Administrative Procedure Act.

We requested Energy's comments on these questions, and have taken their responses into consideration in formulating our answers.

After carefully researching and analyzing the issues you posed, we have very serious concerns about the actions Energy has taken associated with its new Utility Services Contract, both substantively and procedurally. Before providing the results of our research and analysis, it is important to set in perspective the fundamental problems which have developed over the last several years for the uranium enrichment program. The market environment in which Energy's program must operate today is considerably different from the one which existed in the early 1970s when the Congress provided that the Government's prices for enrichment services be based on recovering the program's full cost.

The lower prospects for growth in the nuclear power industry coupled with foreign competition and the emergence of a secondary market for enriched uranium are all affecting the program. U.S. prices in the past few years have been the highest in the world, and the program's competitive position has been steadily deteriorating. Because of these conditions, we have stressed in past testimony before the Congress, including the Subcommittee on Energy Conservation and Power, the need for the executive branch and the Congress to reexamine the fundamental purpose and structure of the uranium enrichment program. We suggested that such a reexamination must consider our nation's objectives for serving the domestic and international uranium enrichment markets and provide adequate flexibility in pricing policies to allow effective competition with foreign suppliers.

In summary, we find that Energy's actions with regard to the new Utility Services Contract were not in compliance with applicable statutory principles; specifically, the Administrative Procedure Act, 5 U.S.C. § 551 et sec., the Department of Energy Organization Act, 42 U.S.C. § 7191(b)(3), and the Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2201(v).

In addition, while accounting changes made by Energy to reduce the reported cost of enriching uranium are generally in accordance with published Generally Accepted Accounting Principles (GAAP), the reduced price arrived at as a result of the changes would violate the Atomic Energy Act's provision requiring cost recovery for the uranium enrichment program.

Background

Uranium enrichment is a process used to increase the concentration of the fissionable uranium-235 isotope found in natural uranium to the levels required for the uranium to be used in various applications. Since 1969, the Federal Government--through the former Atomic Energy Commission, the former Energy Research and Development Administration, and now Energy--has operated enrichment plants primarily to enrich customer-owned uranium for use as a fuel in domestic and foreign nuclear power reactors. Energy's plants also provide enriched uranium for research and defense applications.

At first, the United States basically had a monopoly in the enriched uranium market. Beginning in the mid-1970's, competition developed as two European consortia and the Soviet Union began supplying enrichment services. Competition from foreign suppliers reduced Energy's share of the foreign market from 100 percent in the mid-1970's to its current level of about 35 percent. Coupled with this new competition was a downturn in the prospects of the domestic nuclear power industry as a result of reduced consumer demand for electricity and concern over nuclear proliferation, health and safety issues. As a result, many nuclear power plants were delayed or cancelled. 1/

By the late 1970's, both foreign and domestic utilities found themselves committed to long-term contracts for enrichment services they no longer needed. According to Energy's estimates, a worldwide surplus of about 39 million separative work units (SWU's) now exists, which represents nearly four times Energy's total enrichment production during fiscal year 1983. This, in turn, had led to the emergence of a secondary market for enriched uranium selling at discounted prices.

Throughout this period Energy has been statutorily required to break even on its uranium enrichment activities--that is, to recover its costs over a reasonable period of time but not to make a profit. 42 U.S.C. § 2201(v). Changing world market conditions have made this increasingly more difficult. During the 1980's Energy's prices for enrichment services have generally been the highest in the world--$138.65 to $149.85 per separative work unit (SWU). Foreign suppliers reportedly are providing comparable services at prices ranging from $100 to $117 per SWU, and prices on the secondary market have been as low as $90 per SWU.

Energy has advised us that its most pressing needs were to stabilize the Department's market share, provide for an orderly reduction of excess world inventories of enriched uranium, and control program expenditures to match anticipated revenues. One of the steps Energy took to meet these objectives was the new Utility Services Contract.

1/ For elaboration of information in this and the succeeding two paragraphs, see Information on DOE's Costing and Pricing of Uranium Enrichment Services, GAO/RCED-84-156, April 25, 1984, and Lost DOE Sales to the Secondary Enriched Uranium Market Have Resulted in Reduced Revenues, GAO/RCED-84-76, January 26, 1984.

You informally indicated that in response to question 1 you wanted an articulation of the major features of the new contract. Energy lists the major features of the contract as:[2]

1. Permitting the customer the flexibility to purchase between 70 and 100 percent of its annual enrichment "requirements" from Energy and up to 30 percent of its needs from other sources;
2. Providing a reduced leadtime to firm up delivery quantities (180 days in advance of delivery as opposed to 6 years);
3. Increasing the period of time required for notice by the customer to Energy for termination without penalty;
4. Providing the customer the flexibility to select the tails assay within a given range; and
5. Providing price protection to the customer in the form of a guaranteed long-term price ceiling.

Energy offered the new Utility Services Contract to customers on January 18, 1984. As of November 6, 1984, 44 of Energy's 51 domestic customers had converted to the new contract, and 28 of Energy's 35 foreign customers had converted.

The basic issue involved in your other questions is whether Energy's actions associated with the new Utility Services Contract were in compliance with the statutory constraints under which Energy must operate the uranium enrichment program.

Propriety of Energy's Unilateral Actions

In providing enrichment services to its customers, Energy is required under subsection 161(v) of the Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2201(v), to price its services so that the Government's enrichment costs will be recovered over a reasonable period of time. In addition, the same statutory provision requires Energy to establish criteria setting forth the terms and conditions under which enrichment services will be available, and requires Energy to submit the criteria, and any changes therein, to the appropriate congressional authorizing committees for a 45-day review period prior to their taking effect. See also, H.R. Rep. No. 1702, 88th Cong., 2d Sess. 31 (1964); S. Rep. No. 1325, 88th Cong., 2d Sess. 31 (1964). Of course, the criteria must be in accord with the statutory requirements of the program, and the enrichment contracts must be in accord with the statute and criteria.

---

[2] Energy's description of the purpose and anticipated impact of each major feature is included as Appendix I to this letter opinion.

In addition, subsection 501(b)(3) of the Department of Energy Organization Act, 42 U.S.C. § 7191(b)(3), renders Energy's rules, regulations or orders with respect to public property, loans, grants, or contracts, subject to the administrative procedures set forth in the Administrative Procedure Act, 5 U.S.C. §§ 551 et seq., and subsection 501 of the Department of Energy Organization Act, 42 U.S.C. § 7191.

Before issuing its new Utility Services Contract, Energy did not make any amendments to its uranium enrichment service criteria, and consequently made no provision for the 45-day review period before the appropriate congressional authorizing committees. In addition, Energy made no attempt to comply with the administrative procedures prescribed in the Administrative Procedure Act, supra, or the Department of Energy Organization Act, supra, regarding any aspect of its Utility Services Contract. Energy asserts that neither the development of the new contract, the pricing provisions nor the accounting principles associated with the Utility Services Contract required amendments to the criteria or compliance with these statutory administrative procedures. Moreover, Energy asserted that the Utility Services Contracts are more akin to customer-tailored individual applications resulting from customer-specific negotiations rather than contracts of general application. In essence, therefore, Energy's actions regarding the Utility Services Contract were taken unilaterally, save consultation with its utility customers, and did not formally involve the Congress or other affected parties, such as the uranium mining and processing industries, public interest groups, utility rate payers, the taxpaying general public, etc.

In our view, Energy did not follow prescribed statutory requirements by acting unilaterally regarding its Utility Services Contract, in light of the provisions of the Atomic Energy Act, supra, and the Department of Energy Organization Act, supra.

Criteria

Subsection 161(v) of the Atomic Energy Act of 1954, as amended, *supra*, provides that Energy "shall establish criteria in writing setting forth the *terms and conditions* under which services provided under this subsection shall be made available." (Emphasis added.) "Included among these 'terms and conditions' would be such matters as the charges for enrichment services, the conditions under which such services would be offered, and the *general features of standard contracts for uranium enrichment services*." (Emphasis added.) H.R. Rep. No. 1702, 88th Cong., 2d Sess. 16 (1964); S. Rep. No. 1325, 88th Cong., 2d Sess. 16 (1964). Thus the criteria are to include the general features of standard contracts for uranium enrichment services.

The current uranium enrichment services criteria appear at 44 *Federal Register* 28875 (May 17, 1979). They include many guidelines on contract features in general terms, which must or may be included in Energy's uranium enrichment contracts in more detail. Examples are provisions concerning advance contracting, fixed commitments, advance payments, delivery schedules, chemical form and specifications of feed material, the basis on which charges for enriching services will be calculated, a customer option to acquire tails material, termination by either Energy or the customer, delivery, transfer of title, and others.

However, the Utility Services Contract contains provisions that either conflict with or are not specifically authorized by the existing uranium enrichment services criteria. For example, the existing criteria provide that "The primary contracting vehicle for DOE [Energy] to supply enriching services for nuclear power reactors on a long-term basis shall be a Fixed Commitment Contract." 44 F.R. 28875, 28876 (May 17, 1979). Yet in testimony before congressional committees Energy has repeatedly referred to the Utility Services Contract as a requirements-type contract.[3] The current criteria also provide that "Termination charges per kg unit of separative work will be established on a basis of recovery of the costs which the DOE [Energy] estimates may arise from terminations by customers." *Id*., at 28877. Yet we see no evident relationship between Energy's costs upon customer termination and the penalties assessed customers for termination in the Utility Services Contract. Rather termination penalties under the Utility Services Contract seem to be dependent on the period of notice that the customer has given Energy prior to termination. For example, with 10 years notice the customer is assessed no penalty; with 9 years notice, a 10 percent penalty; with 8 years notice, a 20 percent penalty; with 7 years notice, a 30 percent, etc.; down to with less than 1 year notice, a 100 percent penalty. This appears to be a simple mathematical computation unrelated to actual costs incurred by Energy, but which acts as a deterrent to termination on short notice. In addition, the existing criteria make no specific provision for a customer Variable Tails Assay Option or a guaranteed ceiling price, both of which are contained in the Utility Services Contract.

---

[3] *See*, *e.g*, Testimony of Mr. Shelby T. Brewer, Assistant Secretary for Nuclear Energy, *Energy and Water Development Appropriations for 1985*, Part 6, Hearings Before the Subcommittee on Energy and Water Development, House Committee on Appropriations 901, 907, 916 and 994 (March 19, 1984).

You express particular concern about the guaranteed ceiling price. The guaranteed ceiling price provision in the Utility Services Contract is a guarantee by Energy to its customers that it will not charge a price higher than $135 per SWU for the next 10 years, 4/ and that Energy will not increase its price above this maximum without 10 years advance notice to its customers. These are coupled with a customer's right to cancel its long-term contract with Energy without any termination penalty if 10 years advance notice of cancellation is provided to Energy. The net effect is that with timely notice a customer can cancel out without penalty any time Energy raises its ceiling price, and Energy is locked into the $135/SWU ceiling price for at least the next 10 years.

A guaranteed ceiling price is a very material provision of a contract, particularly when the ceiling price appears to be below Energy's current costs of providing enrichment services and Energy's program statute requires recovery of its costs over a reasonable period of time. Energy itself recognizes its importance by advising us that if the provision were struck down, Energy would renegotiate all of the Utility Services Contracts and reexamine its whole program. Yet we did not find and Energy does not claim that the uranium enrichment services criteria contain any provision specifically authorizing guaranteed ceiling prices. Rather, Energy, without pointing to any specific language in the criteria that might cover a guaranteed ceiling price, seems to rely on the purpose of the Atomic Energy Commission's (AEC) criteria modifications in

---

4/ The contract does provide for adjustment of the ceiling price but only to reflect changes in Energy's unit costs for electricity and the purchasing power of the dollar.

1973, namely, to provide greater flexibility, as justification for permitting new contract provisions without amending the criteria. We find Energy's argument troubling as a general matter, and particularly unpersuasive regarding a guaranteed ceiling price.

It is accurate that in 1973 the AEC, a predecessor agency of Energy, did attempt to make the uranium enrichment services criteria contain more general, generic terms and conditions than had been in the earlier criteria. However, the AEC's effort was largely unsuccessful. Our analysis of the events in 1973 supports neither a conclusion that Energy has unrestricted flexibility in what it places in its enrichment contracts nor that Energy can bypass amending its criteria before including a new feature in its contracts, particularly a guaranteed ceiling price.5/

In 1966 when the first uranium enrichment services criteria were established, they specifically provided for a guaranteed ceiling price. 31 F.R. 16479, 16480 (December 23, 1966). On the initiative of the AEC, this guaranteed ceiling price provision was purposely deleted by the 1973 amendments to the uranium enrichment services criteria. The AEC's rationale was that a guaranteed ceiling charge could preclude compliance with the statutory directive to recover the Government's costs over a reasonable period of time should the Government have to undertake the construction of additional enrichment capacity.6/

Now some 11 years later, the AEC's successor agency claims those criteria permit a guaranteed ceiling price, without pointing to any specific section of the criteria to support its position. Since there have been no relevant changes to the criteria in the intervening 11 years, we find Energy's position unpersuasive. Moreover, the concern which prompted the AEC to delete the guaranteed ceiling price provisions from the criteria in 1973 is still applicable today, namely, the fear that a guaranteed ceiling price could preclude compliance

---

5/ A more comprehensive review of our analysis of the legislative history of the 1973 amendments to the uranium enrichment services criteria appears as Appendix II.

6/ Proposed Changes in AEC Contract Arrangements for Uranium Enriching Services, Hearings Before the Subcommittee on Energy, Joint Committee on Atomic Energy, 93rd Cong., 1st Sess. 446 (March 7, 8, 26; and April 18, 1973).

with both the statutory and criteria directive to recover the Government's costs over a reasonable period of time. This is particularly of concern in a competitive international uranium enrichment market and while the Government is undertaking the construction of additional enrichment capacity.

Energy also asserts that in several instances over the past years, it and its predecessors have made changes in pricing methodology without amending the uranium enrichment services criteria. They state that these changes all had a significant impact on the definition of costs, were consistent with the criteria, were not considered to be "general features" required to be in the criteria and were made known to Congress after the price which reflected the change was announced. However, we find that each of these actions would have been covered within the specific terms of the existing criteria, and accordingly cannot be considered valid precedents for Energy's current actions.

In summary, we conclude that Energy should have amended its uranium enrichment services criteria to conform them to the anticipated provisions of the Utility Services Contract, because the new contract includes provisions that either conflict with or are not specifically authorized by the current criteria.

Administrative Procedures

We recognize that in the past uranium enrichment contracts and prices have been governed by the procedures set forth in subsection 161(v) of the Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2201(v), discussed above. However, with the enactment of the Department of Energy Organization Act (Organization Act), 42 U.S.C. § 7101 et seq., in 1977, additional requirements are applicable to the program. Subsection 501(a)(1) of the Organization Act, 42 U.S.C. § 7191 (a)(1), provides that the provisions of the Administrative Procedure Act (APA), 5 U.S.C. § 551 et seq., apply to rules, regulations or orders associated with programs transferred to the Secretary of Energy by the Act. This would include the uranium enrichment program. This requirement is over and above that contained in subsection 161(v) of the Atomic Energy Act of 1954, as amended, supra.

Ordinarily "matter relating to agency management or personnel or to public property, loans, grants, benefits, or contracts" would be exempt from APA procedures by virtue of 5 U.S.C. § 553 (a)(2). These categories would likely encompass many aspects of the uranium enrichment program, and thus exempt them from APA procedures. However, subsection 501(b)(3) of the Organization Act, 42 U.S.C. § 7191(b)(3), states:

> "For the purposes of this Act, the exception from the requirements of section 553 of Title 5 provided by subsection (a)(2) of such section with respect to public property, loans, grants, or contracts shall not be available."

Accordingly, at least some aspects of the uranium enrichment program are now subject to the procedures prescribed in the APA that had not been covered by those procedures prior to 1977.7/

Moreover, for those elements subject to the APA, subsections 501(b) and (c) of the Organization Act, 42 U.S.C. §§ 7191(b) and (c), also set forth applicable procedures, some of which are duplicative of the APA but others of which are more stringent than the APA. These subsections provide, in part:

> "(b)(1) * * * notice of any proposed rule, regulation, or order * * * shall be given by publication of such proposed rule, regulation, or order in the Federal Register. Such publication shall be accompanied by a statement of the research, analysis, and other available information in support of, the need for, and probable effect of, any such proposed rule, regulation, or order. Other effective means of publicity shall be utilized as may be reasonably calculated to notify concerned or affected persons of the nature and probable effect of any such proposed rule, regulation, or order. In each case, a minimum of thirty days following such publication shall be provided for an opportunity to comment prior to promulgation of any such rule, regulation, or order.
>
> * * * * *

7/ We acknowledge that the uranium enrichment services criteria and amendments thereto prior to 1977 clearly are not affected by virtue of the savings provision in subsection 705(a) of the Organization Act, 42 U.S.C. § 7295(a).

> "(c)(1) * * * If the Secretary determines that a substantial issue of fact or law exists or that such rule, regulation, or order is likely to have a substantial impact on the Nation's economy or large numbers of individuals or businesses, an opportunity for oral presentation of views, data, and arguments shall be provided.
>
> "(2) Any person, who would be adversely affected by the implementation of any proposed rule, regulation, or order who desires an opportunity for oral presentation of views, data, and arguments, may submit material supporting the existence of such substantial issues or such impact.
>
> "(3) A transcript shall be kept of any oral presentation with respect to a rule, regulation, or order * * *."

Based on the definition of a rule contained in 5 U.S.C. § 551(4), the aspects of the uranium enrichment program that could be potentially affected by these administrative procedures, and which were involved in the circumstances surrounding Energy's actions regarding the Utility Services Contract, include:

(1) the issuance of a new, generic type of contract for uranium enrichment services;

(2) any amendment to or modification of the uranium enrichment services criteria;

(3) any price change for uranium enrichment services; and

(4) accounting changes that affect the prices charged for uranium enrichment services.

A court may ultimately have to determine to which elements of the uranium enrichment program, and to what extent, the procedures prescribed in the APA and the Organization Act apply. However, there is little doubt that these procedures are applicable to at least some of the elements of the uranium enrichment program. Accordingly, Energy was ill-advised to unilaterally go forward with the Utility Services Contract and associated events without a careful and considered analysis of these matters. We have no indication that they did so. Moreover, we have been advised that a law suit was filed on

December 7, 1984, in the Federal District Court for the District of Colorado, Western Nuclear, Inc. et al v. Huffman et al., Civil Action No. 84C-2350, based at least in part on Energy's failure to comply with these procedures in relation to the circumstances surrounding the Utility Services Contract.

GAO's Concern

Aside from the strictly legal view of these issues, GAO is concerned that Energy's unilateral actions in offering the Utility Services Contract deprived the Congress and other affected parties (such as the uranium mining and processing industries, public interest groups, utility rate payers, the taxpaying general public, etc.) from meaningful participation in the decisionmaking process. Important policy issues were involved affecting the operation and financial commitments to the program for many years into the future. Congress should have been fully informed about them and been involved in determining the policy direction that the program takes. In addition all affected segments of the industry, as well as interested parties from the public, should have had an appropriate opportunity to participate in the process.

Accounting Changes

Energy set the dollar amount of the guaranteed ceiling price in its new Utility Services Contract with an eye to market conditions and the prices of its competitors rather than on the basis of cost recovery. In fact, the ceiling price, $135/SWU, is both lower than the price that had been charged under prior contracts and lower than current costs when calculated as Energy has traditionally calculated them. In an attempt to achieve this low price and remain in compliance with the statutory requirement that Energy recover its costs from the uranium enrichment program, Energy has planned two significant accounting modifications for pricing purposes, after consultation with a public accounting firm. The first is a write-off for both financial statement and pricing purposes of $1.2 billion of certain portions of its undepreciated plant and capital equipment. The second is the revaluation for pricing purposes of its uranium feed stockpile from market price (approximately $40 per pound) 8/ to acquisition cost (approximately $9 per pound).

8/ Energy estimated that the current average market price was about $40 per pound. This average includes a low of about $17 per pound for uranium which is offered on the spot market. We made no independent review to verify this estimate.

You asked whether these accounting modifications were (1) in accordance with Generally Accepted Accounting Principles, and (2) permissible under the statutory requirements governing the program.9/

While the write-off of a portion of Energy's undepreciated plant and capital equipment attributable to unused capacity is in accordance with Generally Accepted Accounting Principles, the proportion used by Energy is not. Moreover, such action is not in accord with the statutory mandate of subsection 161(v) of the Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2201(v), requiring cost recovery for Energy's uranium enrichment program. Therefore, we conclude that the write-off would constitute a violation of the statute.

Background

Energy's existing uranium enrichment capability consists of three plants, located at Oak Ridge, Tennessee; Paducah, Kentucky; and Portsmouth, Ohio. These plants use an enrichment process known as gaseous diffusion. They were originally built in the 1940's and 1950's to satisfy military needs. Many military requirements, however, were satisfied through the accumulation of stockpiles of enriched uranium. With the development of the civilian use of nuclear power, the uranium enrichment program has been increasingly operated for the benefit of civilian customers.

In the beginning the Government was the sole source of enriching services to its civilian customers and the sole owner of nuclear materials in light of proliferation implications. Enriched uranium was leased to customers. This changed as a result of the enactment of the Private Ownership of Special Nuclear Materials Act, Pub. L. No. 88-489, approved August 26, 1964, 78 Stat. 603. Beginning in 1969, that act authorized toll enrichment, under which the AEC (now Energy) provides a service by enriching privately-owned uranium for a fee based on the amount of separative work required. In conjunction with this change to the civilian nuclear market, the three gaseous diffusion plants and the stockpile of uranium feed were transferred to what is now known as the uranium enrichment program.

9/ You had also requested that we address the propriety of deferring the recovery of depreciation to an unspecified future date. Energy reported to us, in part, that deferral "is not the most appropriate accounting treatment for this particular set of circumstances." Since Energy is no longer proposing the deferral of these expenses, we will not address this issue.

The Government is required to recover its costs for the uranium enrichment program over a reasonable period of time. 42 U.S.C. § 2201(v). The unit price for separative work is to be calculated to satisfy the statutory mandate. The program's costs include, among many other things, the depreciation on plant and capital equipment and the value of Government uranium feed used, if any.

The undepreciated balance on the original three gaseous diffusion plants as of fiscal year 1971 10/ was approximately $1 billion, and $700 million of this had already been recovered from customers by fiscal year 1983 as a part of their toll enrichment fees. Rather than the original costs, however, the primary unrecovered depreciation associated with these three plants stems from plant modifications undertaken in the 1970's to increase their efficiency and capacity, specifically to benefit civilian customers. The original plants have been improved (Cascade Improvement Program or CIP) and uprated (Cascade Uprating Program or CUP) at a cost of over $1.5 billion.11/

These three gaseous diffusion plants have operated at or less than 41 percent of production capacity since and including 1980, because of competitive conditions in the world uranium enrichment market. However, Energy used about 74 percent of its uranium enrichment plant and equipment to operate at 40 percent of production capacity. Energy expects to continue to operate these gaseous diffusion plants at this or lower levels in the future. Consequently, in its fiscal year 1984 financial statements Energy plans to write off 60 percent of the book value of the plant and capital equipment associated with these three gaseous diffusion plants or approximately $1.2 billion. Our understanding is that this program cost has been already excluded from the pricing formula used to calculate the $135/SWU ceiling price. Therefore, it will not be recovered from program customers, but will be considered a sunk cost to be borne by the taxpayers.

In addition, Energy is now building another enrichment plant at Portsmouth, Ohio (GCEP) and is developing two advanced technologies--Atomic Vapor Laser Isotope Separation and Advanced Gas Centrifuge. Energy plans to use one of the advanced technologies to replace some diffusion plant

---

10/ Annual financial statements have been prepared for the uranium enrichment program only since fiscal year 1971.

11/ Information in this paragraph was obtained from Information on Repayment of the Government's Uranium Enrichment Program Costs and Audits of that Program's Financial Statements, GAO/RCED-84-190, August 10, 1984.

capacity. When this occurs, an additional large write-off of the book value of one or more of the gaseous diffusion plants may be expected. In addition, if the Atomic Vapor Laser Isotope Separation technology is ultimately chosen as the replacement technology over the Advanced Gas Centrifuge, Energy may need to write-off the $2.1 billion already spent on the GCEP facility.

Generally Accepted Accounting Principles and Pricing

Generally Accepted Accounting Principles (GAAP) set forth reporting requirements for external, general purpose, financial statements. While financial statements in accord with GAAP can provide information for pricing decisions, GAAP do not provide the rules or specific guidance governing the pricing of goods and services. The recovery of depreciation is a pricing issue and is, in this instance, not governed by GAAP. Energy's pricing guidance emanates from the Atomic Energy Act of 1954, as amended, its legislative history and history of implementation.

In the context in which the issue is posed here, there are indeed two separate questions. Moreover, the question of whether or not GAAP allows Energy to report on its financial statements an accounting adjustment writing-off significant portions of its plant and equipment is probably not relevant to whether or not Energy violates a congressional mandate when it establishes a price which does not recover the cost of the Government's investment in uranium enrichment facilities. In the context here, the latter is the more important of the two. Thus, if Energy's program statute requires full cost recovery of the Government's investment, Energy cannot use a financial statement adjustment to justify excluding these costs from its pricing formula. That is what we ultimately conclude. Accordingly, the following discussion of GAAP and the write-off describes only what may be permissible without consideration of statutory pricing constraints.

GAAP and the Write-Off

Generally Accepted Accounting Principles currently give no specific guidance for accounting for the inability to fully recover the carrying amounts of long-lived assets. While the Accounting Standards Executive Committee, an advisory board of the American Institute of Certified Public Accountants (AICPA), did conclude that the inability to fully recover the carrying amounts of long-lived assets should be reported in the financial statements, it did not specify criteria for determining whether or not an unrecoverable decline in asset value had occurred or the amount of the decline. Since no specific criteria exist, one must decide whether or not a write-down of a long-lived asset is appropriate based upon the circumstances of each case. According to the AICPA, some possible indicators of an inability to fully recover carrying amounts of long-lived assets that one should consider are:

--a reduction in the extent to which a plant is used,

--a dramatic change in the manner in which an asset is used,

--a substantial drop in the market value of an asset,

--a change in law or environment,

--a forecast showing lack of long-term profitability, and

--costs in excess of the amount originally expected to acquire or construct an asset.

While Generally Accepted Accounting Principles allow write-downs of long-lived assets to recoverable value, the literature is presently being interpreted to permit or require write-downs of long-lived assets only in rare situations. The asset write-down must result from clear indications of permanent impairment of asset value. Otherwise, write-downs of long-lived assets might be used to achieve objectives other than adhering to Generally Accepted Accounting Principles.

Applying only the GAAP, in our opinion, the Department of Energy could recognize (report) the inability to fully recover the carrying value of its uranium enrichment plants. Two of the indicators of the inability to fully recover the carrying amounts of long-lived assets, noted previously, apply. First, two changes in the environment, an overall decline in the growth of nuclear power, and new foreign competition, occurred in the past decade. Secondly, in fiscal year 1983, Energy used 74 percent of its uranium enrichment plant and equipment to operate at about 40 percent of production capacity. Moreover, Energy expects its plants to continue to operate at this or lower levels in the future.

However, while we agree that the Department under GAAP may write-down the carrying value of its uranium enrichment plants for financial statement purposes, we do not agree with Energy's measurement of the value of its uranium enrichment plants. Based upon its plants operating at 40 percent of production capacity, Energy believes it should write-down the carrying value of its uranium enrichment plant and equipment by 60 percent. In our opinion, the percentage of plant and equipment in use, 74, rather than the percentage of production capacity, 40, should serve as the measurement of asset value. Thus, assuming a continuing 74 percent use of plant and equipment, Energy's write-down of its plant and equipment should more appropriately be 26 percent rather than 60 percent. Additionally, the adjustment must be reported as an unusual or infrequent item (not an extraordinary item) on the program's income statement. It cannot be made directly to the equity accounts without having been reported on the income (profit and loss) statement.

Reporting the write-off in the income statement defeats Energy's pricing objective of keeping costs within the $135/SWU ceiling price. When Energy calculates its prices, it includes any profits or losses that have accumulated through the end of the preceding year in its pricing formula. Because the $1.2 billion write-off, under GAAP, should be reported in the income statement, it would result in a significant program loss. This loss in turn should be included in any future pricing calculations, and would increase the price above the $135/SWU ceiling, thus defeating Energy's motivation for writing-off these unrecovered costs.

In addition, under GAAP Energy should revise the estimated useful service life of its uranium enrichment gaseous diffusion plants to better conform to management intent and environmental conditions. When an originally selected useful life for an asset turns out to be sufficiently incorrect that future years' reported income will be materially misstated, GAAP requires that an entity correct the useful life and spread the book value remaining at the date of change over the remaining revised useful life. If such an adjustment is not made, the introduction of advanced enrichment technologies will make existing gaseous diffusion plants obsolete before they are fully depreciated. And, Energy will again face large write-offs of the undepreciated asset base.

Moreover, should Energy close any of its three gaseous diffusion plants, the Department must recognize the cost of the plant closing by writing-off the remaining value of the closing plant's facilities and recognize any remaining contractual liabilities in a manner consistent with generally accepted methods for reporting discontinued operations. In addition, Energy should then recognize the costs necessary to dismantle and decontaminate the closing plant, and should begin now serious consideration of whether and how these costs should be included in the program's rate base and pricing formula to be recovered from customers.

In summary, therefore, on the central issue we conclude that GAAP allows Energy to report on its financial statements an accounting adjustment writing-off the portions of its plant and equipment attributable to unused capacity not expected to be used in the future. However, the write-down more appropriately should be 26 percent, representing the percentage of plant and equipment not used, rather than 60 percent, representing the percentage of unused production capacity. In addition, under GAAP the adjustment cannot be made directly to the equity accounts without having been reported on the income statement. Moreover, Energy cannot use a financial statement adjustment to justify excluding these costs from its pricing formula.

Pricing Constraints

Subsection 161(v) of the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2201(v), governing the toll uranium enrichment program, provides, in part, that prices for the program "shall be on a basis of recovery of the Government's costs over a reasonable period of time." In addition, subsection 4(c) of the existing uranium enrichment services criteria, implementing the statute, provides, in part:

> "Charges for enriching services --
>
> "(1) The charges for enriching services, in accordance with the Act, will be established on a nondiscriminatory basis and on a basis of recovery of the Government's costs over a reasonable period of time. * * *
>
> "(2) DOE's charges for enriching services will be established on a basis that will assure the recovery of appropriate Government costs projected over a reasonable period of time. The cost of separative work includes electric power and all other costs, direct and indirect, of operating the enrichment plants; appropriate depreciation of said plants; and a factor to cover applicable costs of process development, DOE administration and other Government support functions, and imputed interest on investment in plant, working capital, and natural uranium contained in those inventories at the DOE enrichment plants needed to provide enrichment services. During the early period of growth of nuclear power, there will be only a small

> *civilian demand on the large DOE enrichment plants. These plants were originally constructed for national security purposes, but will be utilized in meeting future civilian requirements. In this interim period of low plant utilization, the DOE has determined that the costs to be charged to the separative work produced for civilian customers will exclude those portions of the costs attributable to depreciation and interest on plant investment which are properly allocable to plant in stand-by and to excess capacity.*" (Emphasis added.) 44 Fed. Reg. 28876, 28877 (May 17, 1979).

Energy considers that the writing-off of approximately $1.2 billion of unused capacity of its gaseous diffusion plants, so as not to require customer payment of its depreciation, is consistent with the cost recovery requirements of subsection 161(v) of the Atomic Energy Act of 1954, as amended, *supra*, and the quoted portions of the uranium enrichment services criteria. 12/ Energy lists as evidence of flexibility in the requirements (1) the use of the phrases "appropriate Government costs" and "appropriate depreciation of said plants," and (2) the example of the recovery of less than full depreciation during the interim period of early nuclear power growth.

We disagree with Energy. We believe these provisions cannot properly be interpreted in the abstract. The purpose, the subject matter, the context, and the legislative history, as well as the executive interpretation, are aids to be considered in construing a statute. *United States v. Cooper*, 312 U.S. 600, 61 S. Ct. 742 (1941). While the interpretation given a statute by those charged with its application and enforcement is entitled to considerable weight, it hardly is conclusive. *Marin County v. United States*, 356 U.S. 412, 78 S. Ct. 880 (1959). And we acknowledge that when the construction of an administrative regulation, rather than a statute is in issue, deference is even more clearly in order. *Udall v. Tallman*, 380 U.S. 1, 85 S. Ct. 792 (1965). Nevertheless, the persuasiveness of an administrative interpretation is dependent on the thoroughness evident in its consideration, the

---

12/ Energy also asserts that no amendments to the uranium enrichment services criteria were required. We do not address this issue here, because we agree with Energy that a criteria change was not needed. We too believe the language of the criteria is sufficiently flexible to encompass Energy's actions, if permissible under the statute.

validity of its reasoning, its consistency with earlier and later pronouncements, and all those factors which give it power to persuade. Skidmore v. Swift & Co., 323 U.S. 134, 65 S. Ct. 161 (1944); Case & Co., Inc. v. Board of Trade of City of Chicago, 523 F.2d 355 (7th Cir. 1975).

After careful analysis of the statute and the criteria in this light, 13/ we cannot legally support Energy's position. We conclude that a write-off for pricing purposes of undepreciated plant and capital equipment, so as to obviate the need for customer payments of related depreciation as part of the fee for enriching services, violates the statutory mandate of subsection 161(v) of the Atomic Energy Act of 1954, as amended, supra, requiring cost recovery for Energy's uranium enrichment program.

When the toll enrichment program was first authorized in the Private Ownership of Special Nuclear Materials Act, supra, the statutory pricing standard was not expressed in terms of cost recovery. Rather the original pricing standard for uranium enrichment services in subsection 161(v) of the Atomic Energy Act of 1954, as amended, was "on a basis which will provide reasonable compensation to the Government." 78 Stat. 603, 606. Moreover, the Joint Committee on Atomic Energy directed that the phrase "reasonable compensation to the Government" should be construed flexibly, to take into account not only (1) the Government's costs in providing enrichment services, but (2) the national interest in the development and utilization of nuclear power. 14/ In addition, in 1964 the Joint Committee on Atomic Energy deemed it consistent with this statutory standard for the AEC not to recover from customers depreciation attributed to shutdown portions of the diffusion plants, to meet the immediate problem of a substantial decline in enrichment services needed for military purposes. Id.

The first uranium enrichment services criteria were developed in 1966 under this flexible statutory standard. Each of the underscored items in the criteria above were adopted then and remain today. During the course of the congressional hearings on the proposed criteria, the AEC asserted

---

13/ A detailed staff study of the "Legislative History of Statutory Costing Provisions Governing the Uranium Enrichment Program" appears as Appendix III to this letter opinion.

14/ H.R. Rep. No. 1702, 88th Cong., 2d Sess. 17 and 18 (1964); S. Rep. No. 1325, 88th Cong., 2d Sess. 17 and 18 (1964).

that the basic policy was one of full cost recovery, 15/ with one exception. That was, not to charge full depreciation on excess capacity during an interim beginning period, since the plants had essentially been built for military purposes and the civilian market had not yet grown sufficiently to fully utilize plant capacity. The formula by which this partial depreciation exclusion was calculated became known as the Conway Formula. The formula required recovery of depreciation and interest costs only to the extent of the percentage of plant production capacity used plus 10 percent, but with a floor of 30 percent depreciation and interest recovery without regard to proportion of plant use. This standard was to be applied until plant use reached 75 percent of plant capacity, at which point 100 percent of depreciation and interest costs were to be recovered.

The flexibility of the language of the Private Ownership of Special Nuclear Materials Act, supra, was constrained by amendment in 1970. Section 8 of Public Law No. 91-560, approved December 19, 1970, 84 Stat. 1472, 1474, changed the basis of pricing for the toll enrichment program from "reasonable compensation to the Government" to "recovery of the Government's costs over a reasonable period of time." The effect of these changes was to narrow the permissible meaning of the criteria language on depreciation cost recovery and to preclude non-recovery of full costs for the toll enrichment program, except for the one situation where the Conway Formula was applicable.

Whatever may have been the flexibility ascribed in the past to the phrases "appropriate Government costs" and "appropriate depreciation of said plants" in the criteria, after the enactment of the 1970 amendment to subsection 161(v) these phrases were constrained by the coverage of the new statutory language. The criteria cannot be inconsistent with the statute which they implement. Even though these phrases in the criteria have not changed since 1966, their permissible interpretation has been constrained since their adoption by subsequent enactment of legislation on which they depend. Therefore, full cost recovery, including depreciation, was statutorily required after 1970 in every instance except where the Conway Formula is applicable.

15/ Uranium Enrichment Service Criteria and Related Matters, Hearings Before the Joint Committee on Atomic Energy, 89th Cong., 2d Sess. 31, 32 and 112 (August 2, 3, 4, 16 and 17, 1966).

Write-off

Applying these principles to the specific situation presented now regarding Energy's gaseous diffusion plants, we conclude that a write-off for pricing purposes of Energy's undepreciated plant and capital equipment attributable to unused production capacity violates the statutory mandate of subsection 161(v) of the Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2201(v), requiring cost recovery for Energy's uranium enrichment program.

We have been advised that Energy achieved 77.1 percent of production capacity from its gaseous diffusion plants in 1976. Since Energy achieved greater than 75 percent of production capacity, the interim period in which the Conway Formula applied thereby expired. Thereafter, in accordance with the Conway Formula, Energy should have recovered 100 percent of plant and equipment depreciation from customers regardless of the percentage of production capacity achieved in any given year. In fact, from 1977 through 1983 Energy did include 100 percent of depreciation in its prices, even though the percentage of production capacity never again reached 75 percent.

For fiscal year 1984 Energy is planning to disregard past practices and write-off undepreciated plant and capital equipment attributable to unused production capacity. This action will result in a shifting of approximately $1.2 billion in program costs from customers to the Government. This in effect constitutes a subsidization of the enrichment program in contravention of the Atomic Energy Act of 1954, as amended, and its legislative history. Since Energy is not authorized under subsection 161(v) and its implementing criteria to charge less than 100 percent depreciation in current market circumstances, we find the write-off of undepreciated assets to be legally objectionable. If such assets are to be written-off, Congress must amend the Act. A criteria change would not suffice, since the criteria must be in accord with the statute.

The nuclear industry is not threatened by current uranium enrichment market conditions. Indeed, the industry may be benefitting from the competition for enrichment services. Therefore, it is not the development of atomic power that is being impeded but the ability of the United States enrichment program to compete in the world market under its legislative structure. This situation does not fall within the one exception for which Congress approved less than full cost recovery.

Revaluation of Feed Inventory

The second change Energy made to attempt to achieve a low price of $135/SWU and remain in compliance with the statutory requirement that it recover its costs from the uranium enrichment program was to revaluate its uranium feed stockpile for purposes of establishing a use price from market price to acquisition cost. We conclude that this pricing practice is not governed by Generally Accepted Accounting Principles. In addition, the Atomic Energy Act of 1954, as amended, has sufficient flexibility to permit such a revaluation, but for concern over the impact on the domestic uranium mining and processing industries. However, Energy could not legally price uranium feed from its stockpile in conjunction with its enriching services at any price below its acquisition cost.

Facts

Energy has in stock quantities of natural uranium that can be used as feed to produce enriched uranium. This stock was accumulated over a number of years, primarily when the U.S. Government by law could be the only owner of source materials. The stock was needed for defense purposes. In addition, the Government purchased substantial natural uranium to try to generate a viable private, commercial uranium mining industry. With the enactment in 1964 of the Private Ownership of Special Nuclear Materials Act, supra, civilians in the private sector were authorized to own special nuclear materials. In addition, in the contracts under the toll enrichment program, the customers are obliged to supply the feed for their orders. These policies have enabled the development of the civilian nuclear power industry while still permitting the maintenance of the Government's uranium stockpile.

In the long-term contracts (up to 30 years) for enrichment services under the toll enrichment program, the customer is obliged to supply a given quantity and chemical quality of uranium feed to produce the purchased quantity of enriched uranium under the standard operating procedures at Energy's gaseous diffusion plants. However, physically and chemically Energy can modify its operating procedures within certain limits. For example, a given quantity of enriched uranium can be produced by using a smaller quantity of uranium feed and a larger amount of electric power or by using a larger quantity of uranium feed and a smaller amount of electric power.

Since electric power is now relatively expensive, Energy has decided that it would be more cost effective to modify its standard operating procedures so as to use more uranium feed and less electric power. However, to do this, Energy needs more uranium feed than the customer is contractually obligated to supply under its long-term contract. In these circumstances, Energy has decided to obtain the needed additional uranium feed from its stockpile, and to value it for this purpose at acquisition cost (approximately $9 per pound) rather than at current market price (approximately $40 per pound).

GAAP and Feed Revaluation

As stated earlier, Generally Accepted Accounting Principles apply to general purpose financial statements used for external reporting. They are not primarily intended to be the basis for pricing decisions. This revaluation of Energy's uranium feed stockpile for purposes of accounting for its use in the enriching process is a pricing decision.

According to Energy the book value of its feed inventory is reported on the program's financial statement at average acquisition cost. This reporting method is in accordance with GAAP. The program's inventory valuation for financial statement reporting will not be affected by Energy's action.

Inventory Price

Energy uses its uranium stockpile in two ways: (1) as a source of direct supply of uranium feed to its customers, or (2) as a means of reducing electricity use in the enriching process.

When Energy supplies uranium to its customers from its inventory, the transaction has been considered a sale and the price Energy charges has been established in accordance with the standards set forth in subsections 63(c) and 161(m) of the Atomic Energy Act of 1954, as amended, 42 U.S.C. §§ 2093(c) and 2201(m). These standards provide that the selling price for source material, such as uranium feed, must (1) provide reasonable compensation to the Government, and (2) not discourage the development of private sources of uranium. Energy has stated that under these standards and due to varying market conditions over the years, uranium sold has been priced below acquisition cost, at acquisition cost, and above acquisition cost. Since 1977 Energy has been selling uranium from its inventory at average market price. Our understanding is that this practice will not change.

On the other hand, our understanding is that in the past the same methodologies applied in the situation where Energy used uranium feed from its stockpile, for management and cost efficiency reasons, as a means of operating its plants at lower electricity levels, without any direct feed transactions with a customer. This use of stockpile feed was thus treated as a sale by Energy. Now, however, Energy intends to value feed used in this manner at acquisition cost rather than market price. A statutory standard of reasonable compensation to the Government would legally seem to have sufficient flexibility to permit such a pricing revaluation, although it may not always make good economic sense. However, if Energy no longer treats or considers this use of its uranium stockpile as a sale, one consequence is that the other element of the pricing standards of subsection 161(m) of the Atomic Energy Act of 1954, as amended, supra, may not have to be complied with. That is, Energy may not have to assure that its use of its uranium stockpile in this manner will not discourage the development of independent sources of uranium supply. Use of one's stockpile at acquisition cost, which is substantially lower than market price, discourages purchases in the ordinary course from the domestic uranium mining and milling industries. This will undoubtedly further weaken industries which Energy has testified to Congress are in an acute depression with numerous mine closings. 16/ We have not fully examined these matters, but the impact on the uranium mining and milling industries is of some concern.

In addition, Energy could not legally use or sell uranium feed from its stockpile in conjunction with its enriching services at any price below its acquisition cost. Subsection 161(v) of the Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2201(v), governs the toll enrichment program. It requires that the Government recover its costs in providing uranium enriching services. In addition, subsection 4(c)(2) of the implementing uranium enrichment services criteria provides that the cost of separative work includes the direct and indirect costs of operating the enrichment plants, presumably including the costs of Government feed when used. 44 Fed. Reg. 28875, 28876 (May 17, 1979). Moreover, the Joint Committee on Atomic Energy directed that "In the establishment of

---

16/ See, e.g., Testimony of Mr. Shelby T. Brewer, Assistant Secretary for Nuclear Energy, Energy and Water Development Appropriations for 1985, Part 6, Hearings Before the Subcommittee on Energy and Water Development, House Committee on Appropriations 917 (March 19, 1984).

reasonable sales prices for special nuclear material, it is expected that the Commission [now Energy] will follow, to the extent feasible, the principle of full cost recovery." H.R. Rep. No. 1702, 88th Cong., 2d Sess. 24 (1964); S. Rep. No. 1325, 88th Cong., 2d Sess 24 (1964). Therefore, in this context, we believe the sales or use price of uranium feedstock must, at least, recoup the acquisition costs to the Government. 17/

Finally, although we find that the pricing revaluation decision was a judgmental determination within Energy's discretion and authority to make, we do not necessarily agree that it was wise. We recognize that the decision to revaluate and use the feedstock may prove to be shortsighted. It is projected that the stockpile will need to be replenished in the early 1990's. Energy may have to replace its stocks at higher market prices, which, if and when used, will cause the price of enrichment services to rise.

In summary, the burden of our analysis raises serious concerns about the actions Energy has taken both substantially and procedurally. As we have stated on a number of occasions in the past, there is a compelling need, because of the market changes and constraints imposed by full cost recovery pricing in the current market environment, for the executive branch and the Congress together to reexamine the fundamental purpose and structure of the uranium enrichment program. Such a reexamination must consider our nation's objective for serving the domestic and international uranium enrichment markets and provide adequate flexibility in pricing policies to allow effective competition with foreign suppliers.

Sincerely yours,

Milton J. Socolar

for Comptroller General
of the United States

17/ Acquisition cost might perhaps be too narrow a term. Related carrying, storage and other costs should perhaps be added to acquisition cost. We have not carefully explored this issue. Our analysis here is primarily one of contrasting the propriety of a cost-based price versus a market-based price.

ENERGY'S DESCRIPTION OF THE PURPOSE AND ANTICIPATED IMPACT OF EACH MAJOR FEATURE OF ITS NEW UTILITY SERVICES CONTRACT

"1. Ability to purchase between 70 and 100 percent of the customer's annual enrichment requirements from DOE.

"This contract feature obligates DOE [Energy] to produce, and the customer to purchase, only a given portion of a customer's actual enrichment needs, and is designed to stabilize DOE's market share and strike a closer balance between future DOE supply and demand. By linking the contract to the customer's actual fuel requirements, the build-up of future excess enriched uranium inventories can be avoided, and a more realistic and predictable demand base for future production and capacity expansion planning can be achieved. Flexibility is provided to the customer to purchase up to 30 percent of his needs from another source. This flexibility permits an orderly reduction in world excess inventories of enriched uranium, as well as opportunities for diversification of supply and enhanced fuel economies to the customer as a result of freer competition. Because the contract permits customers to purchase as little as 70 percent of his supply from DOE, the Government's obligation to its customers could potentially be less than it was under previous contract forms. Customers may increase or decrease their percentage commitment only upon 5-years advance notice to DOE in order to provide adequate time for DOE to make necessary production arrangements.

"2. Reduced leadtime (180-days in advance of delivery) to firm up delivery quantities.

"This feature complements the requirements characteristic of the contract discussed above in that it is designed to permit the customer to closely match his actual delivery quantities with his actual fuel needs. Longer leadtimes for firm-up have in the past forced customers to take excess quantities of material because they have had to order fuel too far in advance of knowing their actual requirements. The 180-day leadtime for firm-up is within the production leadtime required by DOE to produce enrichment services. The Department's existing Requirements contracts require only 180-day leadtime for delivery. DOE has operated with this leadtime requirement since 1969 for the majority of its deliveries, and has complete confidence in its ability to do so for all deliveries in the future. The impact of this provision on the Government is beneficial for two reasons: it avoids the requirement to produce excess material in the future, and avoids the year-end concentration of deliveries at the enrichment plants caused by previous fixed-commitment contracts.

"3. Extended period of commitment by the customer by increasing the amount of notice required for termination without penalty.

"The US contract [Utility Services Contract] requires a minimum of 10-years notice for free termination. Termination penalties have also been increased compared to previous DOE contracts. This feature is designed to stabilize DOE's deliveries and insulate DOE's revenue base from the market uncertainties associated with secondary market transactions and associated price instabilities. The impact of this provision on the Government is thus a positive one, providing adequate time for DOE to respond to future decreases in demand. It also requires customers to make an extended obligation to DOE in exchange for increased flexibilities in other contract terms.

"4. Flexibility to select tails assay within a given range.

"The US contract provides a Variable Tails Assay Option (VTAO) to the customer within a guaranteed range of 0.20 percent - 0.30 percent U-235. A fee for this service is required. The objective of this feature is to provide the customer with the opportunity to more closely optimize his fuel costs. VTAO is available under the majority of primary supplier contracts in the market, and has been offered by DOE in a more restricted form under its Adjustable Fixed-Commitment contracts. VTAO will enhance DOE's ability to compete with the aggressive initiatives of its competitors, protect its existing market share and capitalize upon future sales opportunities. VTAO represents a potential additional perturbation in the quantity of separative work units (SWU) to be purchased by customers caused by the selection of any tails assay between 0.20 and 0.30 percent U-235. However, two factors compensate for this effect. First, DOE has the operational flexibility to adjust power levels, feed rates, and operating tails assays to accommodate variations in SWU sales as a result of VTAO. Secondly, to the degree that this operational flexibility is inadequate to resolve the effect of sales adjustments from customers exercising the US contract VTAO option, a fee has been established for the use of VTAO which will provide additional revenues to ensure the financial stability of the enterprise. Therefore, the impact of VTAO should be positive with respect to enhancing DOE's competitive posture with adequate protective measures to accommodate any potential sales variations from its use.

"5. Price protection in the form of a long-term price ceiling.

"The US contract contains a ceiling charge provision that obligates the Government to provide enrichment services at prices that do not exceed a calculated ceiling charge. Price ceiling protection has been provided in the past by the Department in its Requirements contracts. The US contract thus extends price ceiling protection to those fixed-commitment customers that convert to the US contract. Incorporation of a price ceiling as a contractual obligation was required for DOE to remain competitive in the enrichment market. All other forms of non-US primary supplier contracts contain some form of price ceiling protection.

"Price is an important factor in the enrichment market. The ability to provide enrichment services at low prices, which are stable and predictable over time, is the challenge that DOE must address in order to meet its customers needs and be competitive with foreign producers. However, market benefits associated with projected low enrichment prices in the near and long term are rendered ineffectual in the absence of some form of price ceiling to protect against future increases. Therefore, an enrichment program strategy with production cost efficiencies and options for deploying advanced technologies must be implemented to result in low enrichment prices and to include some guarantee against unforeseen price increases. This combination is paramount in establishing customer confidence and subsequently a stable sales base for DOE.

"The ceiling charge is another manifestation of DOE's responsibility to control program costs and prices in a businesslike manner. DOE is confident of its ability to reduce production costs and deploy more efficient advanced technologies to not only maintain prices within the ceiling limit, but in fact, to reduce prices below future US contract ceiling charge levels. * * * The Department's commitment to recover costs within the ceiling is further emphasized by the fact that the Department cannot charge prices greater than the ceiling charge unless 10-years advance notice is given to the customer. However, this override protection was included in the contract to assure that DOE's cost recovery obligation could be met even in the event that unforeseen circumstances materially change future market conditions."

LEGISLATIVE HISTORY OF 1973 AMENDMENTS TO URANIUM ENRICHMENT SERVICES CRITERIA

The first uranium enrichment services criteria had been developed in 1966. See 31 Fed. Reg. 16479 (December 23, 1966). They had specified two standard types of contracts--Firm Quantities Contracts and a Requirements Contract. The basic principles of each type had been set forth along with the more significant provisions of the contracts. In 1973 the AEC, a predecessor agency of Energy, attempted to make the uranium enrichment services criteria contain more general, generic terms and conditions than had been in the earlier criteria. However, the AEC's effort ultimately was largely unsuccessful.

In hearings before the Joint Committee on Atomic Energy in 1973, Mr. George F. Quinn, Assistant General Manager for Production and Management of Nuclear Materials, explained the AEC's objective, in part, as follows:

> "The proposed revisions to the uranium enrichment services criteria include charges necessary * * * to afford appropriate flexibility to incorporate changes in the contracting details as may be warranted by experience * * *." 1/

Some flavor of the AEC's proposed 1973 criteria modifications can be illustrated by a part of Mr. Quinn's statement with regard to contract termination provisions:

> "* * * The quantitative terms and conditions for termination by the customer of an enrichment services contract are, therefore, not specified in the criteria and will not be set forth in individual contracts.

1/ Proposed Changes in AEC Contract Arrangements for Uranium Enriching Services, Hearings Before the Subcommittee on Energy, Joint Committee on Atomic Energy, 93rd Cong., 1st Sess. 19 (March 7, 8, 26; and April 18, 1973).

> "Instead, they would be announced, and periodically updated as may be necessary, by notices in the Federal Register. Other features of the enrichment services contract which are subject to change because of external conditions are also proposed to be subject to modification, as needed, by appropriate notices in the Federal Register." 2/

The AEC sustained considerable opposition to its 1973 proposed criteria modifications, both from industry and members of the Joint Committee on Atomic Energy. A few examples of congressional reaction taken from the 1973 hearings, _supra_, are illustrative:

1. "_Senator Jackson_. * * * the revised criteria omit any reference to the types and significant details of the contracts under which enrichment services will be provided." (Page 2.)

2. "_Representative Price_. Since the significant features of the new types of contracts are not described in the criteria there appears to be nothing that would require the Commission to return to the Joint Committee should it decide to vary the terms and conditions under which it would provide the uranium enrichment services. This seems to be a substantial departure from the intent of section 161v. * * *" (Page 32.)

3. "_Representative Price_. Of course you can shorten the time of many things if you depart from the law. * * * Even we nonlegal members of the committee can see that you are ignoring a section of the Atomic Energy Act." (Page 33.)

2/ _Id._, at 22.

4. "Representative Holifield. It is very clear on the face of it that this is a move, justified on the basis of a new arrangement, to evade or to nullify congressional control. * * * It seems to me that this is a very convenient way to say that it is too complicated and, therefore, we want to change the law, or evade it, in order to keep congressional control from taking place." (Page 33.)

5. "Mr. Minsch [Assistant General Counsel, AEC]. Mr. Holifield, on the legal point you raised we, of course, are still subject to the statutory requirement of section 202 that we keep the Joint Committee currently informed."

   "Representative Holifield. It is one thing to keep us currently informed and another thing to reduce the power for us to do anything about it after you inform us." (Page 34.)

6. "Representative Holifield. * * * What control do you feel the Joint Committee will have over the essential terms and conditions of this or any other contract for enriching services under the new criteria?"

   "Mr. Allen [President, Yankee Atomic Electric Co., and Vice President, New England Electric System]. None."

   "Representative Holifield. Thank you. I came to the same conclusion. * * * The new criteria would eliminate any supervision of this committee over these things." (Page 83.)

The result was that the criteria modifications were not adopted as proposed in 1973. The Joint Committee on Atomic Energy held 4 days of hearings on them. The Committee also requested an extension of the 45-day review period from the

AEC and a deferral of criteria modifications, and the AEC granted both requests. 3/ The Committee, in the interim, insisted that the AEC consult with both representatives of industry and the Committee staff to try to achieve more acceptable criteria modifications.4/ Modification of the uranium enrichment services criteria, that was proposed by the AEC to the Joint Committee on January 18, 1973, was not concluded until May 7, 1973, a period of more than 100 days. The modifications ultimately adopted differed significantly from those first proposed.

The criteria revisions of 1973 as originally proposed gave the AEC great latitude in the operation of the uranium enrichment program, including eliminating references to any particular type of contract. This original proposal was unacceptable to both the Joint Committee on Atomic Energy and the nuclear industry, and it was rejected. The proposed criteria were then revised to contain various changes in the areas of (1) assurances of consultations with customers regarding any future contract changes which might have adverse effects on them; (2) clarification of assurances regarding non-discrimination in Government termination of contracts; (3) clearer enunciation of the intended maximum customer termination charges; and (4) increases in the advance notice period to increase enriching service charges. Many of these were reinsertions of provisions already contained in the 1966 criteria but with slight modifications. More importantly, the Fixed Commitment Contract was specified as the required primary contracting vehicle for supplying enriching services for nuclear power reactors on a long-term basis. The AEC did succeed in deleting the principles relating to the Requirements contract and the guaranteed ceiling price. Most of the 1966 criteria provisions were retained.

3/ Id., at pages 183 and 187.

4/ Id., at pages 188-194 and 196-198 for listings of the issues in dispute and the positions of the respective parties.

The 1973 experience and its background are particularly instructive regarding a guaranteed ceiling price. Initially, in 1966 when the first uranium enrichment services criteria were established, they specifically provided for a guaranteed ceiling price. Subsection 5(d) stated:

> "(d) Ceiling on charge for enrichment services. The contract shall specify for the term of the agreement a guaranteed ceiling charge, subject to upward escalation for the cost of electric power and labor. The ceiling charge as of July 1, 1965, the base date for application of escalation, is $30 per Kg unit of separative work for separation of U-235 from U-238. (In its standard table of enriching services, as well as its schedule of charges for sale or lease of enriched uranium, AEC will take into account any significant effect of the presence of other isotopes of uranium on the number of separative work units required to perform a given U-235, U-238 separation.)" 31 Fed. Reg. 16479, 16480 (December 23, 1966).

This guaranteed ceiling price provision was purposely deleted from the uranium enrichment services criteria in the 1973 amendments on the initiative of the AEC. The AEC provided an extensive rationale justifying its deletion:

> "The present requirement that enriching services contracts which may cover periods as great as 30 years contain a guaranteed ceiling charge of $30 subject to escalation for costs of electric power and labor was deleted as it is considered no longer necessary, and it could preclude compliance with the statutory directive to recover the Government's costs over a reasonable period of time should the Government have to undertake the construction of additional enrichment capacity. Incorporation of the ceiling price concept in the Criteria occurred at a time when cost data concerning operation of the enrichment plants was classified and it served to provide customers with

> some assurance as to the future economics of uranium enrichment, as a basis for their long-term planning.
>
> "Now, however, since cost information on the existing plants and estimates with regard to future diffusion plants are no longer classified, and since the Act now specifies that the AEC charge be based on its costs, the original purpose of the ceiling charge would no longer be appropriate at the time that new enriching capacity might be undertaken. The escalation provisions of the existing ceiling charge relate specifically to the existing plant capacity; they contain no provision for escalation in the cost of the capital or in construction costs which, of course, would be reflected in the economics of any new plant capacity to be built. Thus, it is possible that the enriching costs of new plant capacity built in the future could exceed the escalated ceiling charge which was incorporated into the original Criteria and which clearly was applicable only to the existing plants."5/ (Emphasis added.)

The arguments were frequently repeated during the 1973 hearings. See, e.g., pages 21, 157, 451, 452, and 664. In fact, in response to a question from the Joint Committee asking if the AEC would object to the restoration of a ceiling charge in the criteria, the AEC answered:

> "* * * Since its [the ceiling price] inclusion could be prejudicial to the Government's financial interest and no other clear purpose is being served, the AEC continues to believe that it should be deleted from the Criteria." Id., at 664.

Consequently, all of the provisions concerning a guaranteed ceiling price were in fact deleted from the uranium enrichment services criteria in 1973 at the insistence of the AEC.

5/ Proposed Changes in AEC Contract Arrangements for Uranium Enriching Services, Hearings Before the Subcommittee on Energy, Joint Committee on Atomic Energy, 93rd Cong., 1st Sess. 446 (March 7, 8, 26; and April 18, 1973).

Now some 11 years later, the AEC's successor agency, looking at the uranium enrichment services criteria from which all provisions concerning a guaranteed ceiling price had been purposely deleted, claims those criteria permit a guaranteed ceiling price, without pointing to any specific section of the criteria to support its position. There have been no relevant changes to the criteria in the intervening 11 years. We did not find anything in the 1973 legislative history that would support Energy's position. All of the evidence that we have seen points in the direction that guaranteed ceiling prices were neither wanted in the criteria nor in enrichment contracts.

In addition, the concern which prompted the AEC to delete the guaranteed ceiling price provisions from the criteria in 1973 still seems to prevail today, namely, the fear that a guaranteed ceiling price could preclude compliance with both the statutory and criteria directive to recover the Government's costs over a reasonable period of time, particularly in a competitive international uranium enrichment market and while the Government is undertaking the construction of additional enrichment capacity.

Energy does assert that a 1973 GAO report 6/ offers support for its

> "* * * determination that no criteria change was required in order to include a ceiling price provision in the * * * [Utility Services Contract]. GAO expressly recognized in its 1973 analysis of the criteria now in effect that, despite the Department's decision to exclude a ceiling charge provision from the fixed - commitment contracts (first offered in

---

6/ Proposed Revisions to the Criteria and Contracts for Uranium Enrichment Services, B-159687, March 5, 1973, reprinted in Proposed Changes in AEC Contract Arrangements for Uranium Enriching Services, Hearings Before the Subcommittee on Energy, Joint Committee on Atomic Energy, 93rd Cong., 1st Sess. 311-359 (March 7, 8, 26; and April 18, 1973).

> 1973), the Government would not be prohibited under the proposed criteria from offering price ceiling protection under the terms of contracts that specifically provide for such protection." (Emphasis added.)

However, we find this interpretation of our report to be without foundation.

GAO's report stated that:

> "The elimination of the ceiling charge will not apply to customers who elect to continue to operate under requirements contracts because these contracts contain the following provision:
>
> > "The charges to be paid to the Commission for enriching services provided to the Customer hereunder shall be determined in accordance with the established Commission pricing policy for such services; provided, however, that the unit charge for enriching services during the term of this agreement shall in no event exceed a ceiling charge * * *." Id., at 22.

All GAO said and meant was, where a then-existing requirements contract contained the ceiling price language quoted, the Government would honor that contract provision, since the AEC had no authority to breach existing contracts. Those contracts were governed by the criteria in existence at the time the contracts were consummated. Contracts consummated after 1973, however, would be governed by the uranium enrichment services criteria, as modified in 1973. Consequently, after 1973 the AEC would likely be administering both contracts with a guaranteed ceiling price and other contracts without a guaranteed ceiling price, the former consummated before the criteria revisions became effective and the latter consummated after the criteria revisions. This does not imply that the AEC could "offer" to sign new contracts after 1973 that still contain a guaranteed ceiling price, even though the guaranteed ceiling price provisions had been deleted from the criteria. New requirements contracts were no longer offered after 1973.

Our interpretation is in accord with the AEC's own testimony. Mr. Roger W.A. Legassie, Director, Division of Program Analysis, AEC, stated:

> "* * * With respect to the contracts so that there is no misunderstanding on this point, once a contract is signed, neither party to the contract can change unilaterally the contract terms and conditions of the contract, although I believe such an impression might have been given.
>
> "Even if future contracting arrangements under the criteria are changed to some new form, this will not affect customers who have previously signed contracts under the existing arrangement.
>
> "For example, the Commission can, must, and will honor all requirements contracts that it has signed in the past, term by term, even though it now proposes to change to a new form of contract." 7/

Therefore, our analysis of the events in 1973 supports neither a conclusion that Energy has unrestricted flexibility in what it places in its enrichment contracts nor that Energy can bypass amending its criteria before including a new, major feature in its contracts. In addition, we can find no evidence from the events of 1973 that would support Energy's assertion that its uranium enrichment services criteria provide sufficient flexibility for inclusion of a guaranteed ceiling price in its enrichment contracts.

7/ Proposed Changes in AEC Contract Arrangements for Uranium Enriching Services, Hearings Before the Subcommittee on Energy, Joint Committee on Atomic Energy, 93rd Cong., 1st Sess. 159 (March 7, 8, 26; and April 18, 1973).

LEGISLATIVE HISTORY OF STATUTORY COSTING PROVISIONS GOVERNING THE URANIUM ENRICHMENT PROGRAM

Early Statutory Legislative History

When the toll enrichment program was first authorized in the Private Ownership of Special Nuclear Materials Act, *supra*, the statutory pricing standard was not expressed in terms of cost recovery. Rather the original pricing standard for uranium enrichment services in subsection 161(v) of the Atomic Energy Act of 1954, as amended; was "on a basis which will provide reasonable compensation to the Government." 78 Stat. 603, 606. Pricing for enriching services was an issue of no small concern to the Joint Committee on Atomic Energy. Indeed the matter was discussed at length by the Committee before the enactment of the Private Ownership of Special Nuclear Materials Act:

> "One of the recurrent problems discussed in the committee's hearings on this legislation was the uncertainty with respect to the Commission's charges for separative work under uranium enrichment service arrangements. The problem was most sharply illustrated by reference to a disarmament situation, under which the Commission would have to meet no further requirements for special nuclear material for weapons purposes. In such a situation, the major market for the output of the diffusion plants would be nuclear power reactors--a requirement that is expected to be small in the near-term compared to the production capacity of the AEC plants.
>
> "This problem has, to some extent, already been posed by the cutback in the production of special nuclear materials announced this year by the President. To alleviate industry concern with respect to the effect of those cutbacks on the charges for enriched uranium, the AEC announced on June 4, 1964, that it did not plan to increase its published charges for enriched uranium. The AEC stated that even in maintaining its current schedule of charges--

"*The Government would still recover its full costs of separative work, although those portions of the diffusion plant shut down as a result of the cutback would not be amortized against current production.*

"*In the Committee's view, this policy should assure reasonable compensation to the Government. But, it will be immediately recognized that this policy may only be an interim measure to meet an immediate problem*. In the situation of a virtual or complete elimination of production for weapons purposes, alternative modes of diffusion plant operation would have to be considered.

* * * * *

"It is too early to predict with certainty the precise dimensions of this problem or the best method of solution. However, *the statement in new subsection 161v, that charges for enrichment services shall be established on a basis which will provide 'reasonable compensation to the Government' is flexible. In arriving at this determination the Commission will have to consider not only the Government's costs in providing enrichment services but also the national interest in the development and utilization of nuclear power*.

"This is a matter the Committee intends to follow very closely in the years ahead. Indeed the Congress, through the Joint Committee, will have an important role in evaluating the terms and conditions under which uranium enrichment services are offered since the criteria setting forth these terms and conditions will have to be submitted to the committee and lie before the committee in accordance with the provisions of new subsection 161v." (Emphasis added.) H.R. Rep. No. 1702, 88th Cong., 2d Sess. 17 and 18 (1964); S. Rep. No. 1325, 88th Cong., 2d Sess. 17 and 18 (1964).

Thus in 1964 the Joint Committee on Atomic Energy deemed it consistent with the statutory standard "reasonable compensation to the Government" for the AEC not to recover from customers depreciation attributed to shutdown portions of the diffusion plants, to meet the immediate problem of a substantial decline in enrichment services needed for military purposes. Moreover, the Joint Committee directed that the phrase "reasonable compensation to the Government" should be construed flexibly, to take into account not only (1) the Government's costs in providing enriching services, but (2) the national interest in the development and utilization of nuclear power.

Development of Criteria Language

In 1966 the AEC proposed criteria implementing subsection 161(v) of the Atomic Energy Act of 1954, as amended, supra, and specifying the terms and conditions under which toll enrichment services would be provided to customers. Five days of hearings were held on the proposed criteria. 1/

During the course of these hearings, Mr. John P. Abbadessa, Controller of the AEC, stated the cost elements to be included in customer fees and, in particular, stated the proposed pricing policy of the AEC regarding excess plant capacity. The pricing policy would be "in accordance with the established full cost recovery of the Commission with this exception related to excess capacity." Id., at 32. Dr. Glenn T. Seaborg, Chairman of the AEC, reaffirmed that "the Commission's basic policy is one of full cost recovery * * *." Id., at 112.

The basis for the single exception to full cost recovery was explained by Mr. Abbadessa as follows:

> "* * * What is involved here * * * is that we would not pass on to private industry the costs associated with unused capacity in these large plants which were built essentially for military purposes.

1/ Uranium Enrichment Service Criteria and Related Matters, Hearings Before the Joint Committee on Atomic Energy, 89th Cong., 2d Sess. (August 2, 3, 4, 16 and 17, 1966)

> "* * * In determining our depreciation and interest on the investment of the Government, we used a percentage approach which is to charge the toll enrichment program with that portion of our capacity that is used for toll enrichment purposes and to charge the unused capacity to national defense.
>
> "We think this results in a full cost charge to the toll-enrichment program. We also think it is consistent with the legislative history." Id., at 31.

The criteria language that the AEC proposed to implement this policy included each of the items underscored above in the text in the section on "Pricing Constraints."

Mr. John T. Conway, Executive Director of the Joint Committee on Atomic Energy, did not totally agree with the AEC. He felt that if private industry were building a plant, they would normally build in some additional capacity. Thus, since the diffusion plants were supposed to operate somewhat comparable to a commercial enterprise, the customers should pay depreciation on some of the excess capacity. Id., at 61-65 and 131-132. GAO in its report to the Joint Committee, B-159687, August 1, 1966 (reprinted in the Hearings at 333-341), also expressed some reservations about excluding from the toll enrichment charge depreciation and imputed interest costs attributable to excess capacity. Id., 336-337. GAO estimated that $150 million, during the 3-year period 1969 through 1971 when production was expected to be low, would be charged to national defense instead of the toll enrichment program. Id., at 32. All parties agreed that the program should not provide a Government subsidy to the industry. See, id., at 29, 33, 121, 319, 517 and 518.

Mr. Conway's concerns were satisfied by the development of the Conway Excess Capacity Formula (Conway Formula). The agreement was consummated in an exchange of letters between the Joint Committee and the AEC. 2/ This agreement did not necessitate a modification in the proposed criteria language, but constituted a change in AEC policy in interpreting and implementing the criteria language. In brief, the Conway Formula provided that a portion of costs attributable to depreciation and interest on plant investment associated with unused excess capacity would be temporarily excluded from the price calculation and charged to national defense. The formula required recovery of depreciation and interest costs only to the extent of the percentage of plant production capacity used plus 10 percent, but with a floor of 30 percent depreciation and interest recovery without regard to proportion of plant use. This standard was to be applied until plant use reached 75 percent of plant capacity, at which point 100 percent of depreciation and interest costs were to be recovered.

Thus, the criteria adopted in 1966, consistent with the language of the Private Ownership of Special Nuclear Materials Act and its legislative history, did include language allowing some flexibility. This language, however, and its implementing Conway Formula were designed for an interim period to deal with a specific immediate problem, namely, a temporary substantial excess production capacity due to the decline in enrichment services needed for military purposes. This was explicitly recognized by the AEC in a January 26, 1971, letter to the Joint Committee on Atomic Energy. In response to a specific question, the AEC then stated "The significance of the inclusion of the word 'appropriate' in the first sentence of Subparagraph (2) [of subsection 4(c) of the criteria] is to preserve the Conway formula * * *." 3/

2/ Letter from Chairman Chet Holifield, Joint Committee on Atomic Energy, to Dr. Glenn T. Seaborg, Chairman, AEC, dated October 18, 1966, and a responding letter from Chairman Seaborg to Chairman Holifield, dated December 16, 1966. Both letters are reprinted in the 1966 Hearings at 517-519.

3/ Uranium Enrichment Pricing Criteria, Hearings Before the Joint Committee on Atomic Energy, 92d Cong., 1st Sess. 6 (February 25, 1971).

1970 Statutory Amendment

The flexibility of the language of the Private Ownership of Special Nuclear Materials Act, supra, was constrained by amendment in 1970. Section 8 of Public Law No. 91-560, approved December 19, 1970, 84 Stat. 1472, 1474, changed the basis of pricing for the toll enrichment program from "reasonable compensation to the Government" to "recovery of the Government's costs over a reasonable period of time." In addition, the legislative history of the amendment further clarifies even the new language. The effect of these changes was to narrow the permissible meaning of the criteria language on depreciation cost recovery and to preclude non-recovery of full costs for the toll enrichment program, except for the one situation where the Conway Formula was applicable.

The 1970 amendment was a congressional reaction to an attempt by the AEC in 1969 to base its toll enrichment prices on a standard of the needs of a hypothetical, private, commercial corporation rather than on a cost recovery standard. The Joint Committee on Atomic Energy recommended that "the original legislative intent be reiterated and the wording of the statute buttressed in support of its intended purpose. 4/ In the process, it chastised the AEC by stating that "The Committee expects that this reiteration of congressional intent would preclude any further attempt to deviate from the purpose of the statute."5/ The Joint Committee then proceeded to restate its intent and to incorporate by reference a GAO legal interpretation 6/ of the meaning of subsection 161(v).7/

4/ H.R. Rep. No. 1470, 91st Cong., 2d Sess. 2 (1970); S. Rep. No. 1247, 91st Cong., 2d Sess. 2 (1970).

5/ Id., at 25.

6/ Review of Proposed Revisions to the Price and Criteria for Uranium Enrichment Services, B-159687, July 17, 1970, at 9, reprinted in Uranium Enrichment Pricing Criteria, 91st Cong., 2d Sess. 161-238 (June 16 and 17, 1970).

7/ H.R. Rep. No. 1470, supra, at 22; S. Rep. No. 1247, supra, at 22.

In so doing, the Joint Committee explicitly affirmed GAO's legal interpretation of the meaning of subsection 161(v) as the Committee's intended meaning of the new statutory language requiring "recovery of the Government's costs over a reasonable period of time." GAO's opinion required the recovery of costs in every instance except one, namely, the situation for which the Conway Formula had been devised to deal with the reduction or possible elimination of the military need for enriched uranium. Flexibility and consideration of the national interest were directed specifically and solely at this particular problem.

Whatever may have been the flexibility ascribed in the past to the phrases "appropriate Government costs" and "appropriate depreciation of said plants" in the criteria, after the enactment of the 1970 amendment to subsection 161(v) these phrases were constrained by the coverage of the new statutory language. The criteria, having the legal force and effect of regulations, cannot be inconsistent with the statute which they implement. Even though these phrases in the criteria have not changed since 1966, their permissible interpretation has been constrained since their adoption by subsequent enactment of legislation on which they depend. Therefore, full cost recovery, including depreciation, was statutorily required after 1970 in every instance except where the Conway Formula is applicable.

Congressional Research Service
The Library of Congress

Washington, D.C. 20540

May 20, 1986

To: Senator Pete V. Domenici
Attention: K. P. Lau

From: American Law Division

Subject: Report on the Legal Authority To Sell U.S. Uranium Enrichment Facilities Without Further Legislation

In response to your inquiry and our discussions concerning the existing legal authority for the Department of Energy to sell U.S. uranium enrichment facilities, we have prepared the enclosed report entitled "Legal Authority to Sell U.S. Uranium Enrichment Facilities Without Further Legislation."

We trust that the report is responsive to your inquiry.

Robert D. Poling
Specialist in American Public Law
American Law Division

Congressional Research Service
The Library of Congress

Washington, D.C. 20540

LEGAL AUTHORITY TO SELL U.S. URANIUM ENRICHMENT FACILITIES WITHOUT FURTHER LEGISLATION

Robert D. Poling
Specialist in American Public Law
American Law Division
May 20, 1986

TABLE OF CONTENTS

Introduction 1

Past Proposals for Operation of Enrichment Facilities. 3

Department of Energy Solicitation of Interest. 5

Legal Authority. 7

Legislative History. 8

The 1954 Act 13

The Private Ownership of Special Nuclear Materials Act 14

Department of Energy Authority 15

GSA Authority to Dispose of Surplus Property 17

Conclusion 22

Legal Authority to Sell U.S. Uranium Enrichment Facilities Without Further Legislation

Introduction

The purpose of this report is to analyze existing legal authority that might be used to sell certain uranium enrichment facilities owned by the United States, without further legislative enactment. Under current law, the U.S. Department of Energy (DOE) directs the operation of three DOE-owned, contractor-operated, gaseous diffusion enrichment plants located at Oak Ridge, Tennessee; Paducah, Kentucky; and, Portsmouth, Ohio.[1]

These plants provide enrichment services under DOE contracts with publicly and privately owned nuclear power utilities throughout the world and will generate an estimated $1.3 billion in revenues in Fiscal Year 1986.

Enrichment of uranium is a necessary process in order for it to be used either as fuel for most domestic types of nuclear power plants or for the production of nuclear weapons:

> Less than one percent of the uranium found in nature is the fissionable isotope U-235--the remainder is U-238. Before uranium can be used to fuel the types of reactors in use in the United States and most other countries, the percentage of U-235 must be enriched (increased) to about three percent. Enrichment is a technically difficult process that requires a large, expensive plant to achieve its most economic operation. It is possible for the same plant to enrich uranium for powerplant use or for use in nuclear weapons. [Nuclear weapons generally use uranium enriched to at least 90

---

[1] Only the Ohio and the Kentucky plants are presently operating. Oak Ridge has been placed on standby pending the development of future demand that would justify its reactivation. See, 51 Federal Register 11,811, 11,812 (April 7, 1986).

percent, but it might be possible to construct weapons from uranium with as low as 20 percent U-235.] [Footnote included in brackets.][2]

In addition to the three gaseous diffusion plants, DOE has responsibility for the development of a gas centrifuge plant. In 1985 the Department of Energy announced that it would terminate the development of its gas centrifuge enrichment plant (GCEP) project at Portsmouth, Ohio. DOE initiated discussions with the Department of Defense, and other organizations, concerning the use and disposal of buildings, equipment, and materials related to that plant. The termination and disposition the GCEP equipment and material by government sale and the sale of any or all of DOE's three working gaseous diffusion plants is the subject of this report.

The possible sale of these uranium enrichment facilities by the government raises a number of important legal issues under current law that appear to restrict the ability of the Department of Energy from disposing of these facilities without express legislative authorization. Although past proposals have been made to change the government's role in the operation of enrichment facilities, and despite a current DOE request of interest in "private participation" in the operation of the facilities, the legal issues associated with the sale of the facilities do not appear to have been analyzed extensively.

This report discusses past proposals, the pending DOE request of interest, the relevant statutory provisions concerning possible sale, the legislative history of the statutory provisions, and other legal matters relating to possible sale.

---

[2] See, Review of Efforts to Reduce the Federal Role in Providing Uranium Enrichment Services, by Robert L. Civiak, Science Policy Research Division, Congressional Research Service (June 10, 1983), at p. 2.

Past Proposals for Operation of Enrichment Facilities

There have been several proposals over the last two decades to change the Government's role in the operation of uranium enrichment facilities, but no administrative or legislative action has been completed.[3] At least two major, but unsuccessful, efforts were undertaken by the Nixon and the Ford Administrations to sell the government's uranium enrichment facilities.

In 1969, the Joint Committee on Atomic Energy held extensive hearings to consider possible private acquisition of the gaseous diffusion plants by private enterprise.[4] A Nixon Administration Task Force had reported on possible private ownership of enrichment facilities, and several private suggestions in support of private enrichment operations were made. But the Joint Committee and the Atomic Energy Commission opposed the proposals, and President Nixon indicated that he would not seek legislation to authorize the sale of the facilities to private industry.[5]

In 1975, the Joint Committee on Atomic Energy again held extensive hearings on legislative proposals to provide for the ownership and operation of enrichment facilities.[6] These hearings were devoted to the consideration of identical bills--S. 2035 and H.R. 8401--introduced at the request of the Ford

---

[3] Id.

[4] Future Ownership of the AEC's Gaseous Diffusion Plants. Hearings before the Joint Committee on Atomic Energy, 91st Congress, 1st Session (1969). See also, Selected Materials Concerning Future Ownership of the AEC's Gaseous Diffusion Plants, Committee Print, Joint Committee on Atomic Energy, 91st Congress, 1st Session (1969).

[5] See, Civiak, supra, at 10-11.

[6] S. 2035 and H.R. 8401: Nuclear Fuel Assurance Act of 1975, Hearings before the Joint Committee on Atomic Energy, 94th Congress, 1st Session (1975), 2 Parts.

Administration. The bills would have authorized the Energy Research and Development Administration (successor to the Atomic Energy Commission) to enter into cooperative arrangements to provide technical assistance, information, equipment, and various other benefits to private enterprise in the construction and operation of private enrichment facilities. Although the bill was somewhat ambiguous, it would have authorized the disposal of government enrichment facilities under a new Section 45(a)(6). The legislation would have authorized extensive contractual relationships with private enrichment firms and might have been used to dispose of governmental enrichment facilities. The bills met considerable opposition in both the House of Representatives and the Senate and were not enacted.[7]

Since then, much discussion has continued regarding the government's role and policies in the operation of enrichment facilities. The Congress has taken a keen continuing interest in the policies with regard to the pricing of enrichment services, future enrichment technologies, and other matters relating to the conduct of uranium enrichments services.[8]

These two legislative initiatives of 1965 and 1975 would have authorized, in one fashion or another, the disposition of enrichment facilities now being considered. In each instance in the past when significant consideration was given to the question of greater private ownership of enrichment facilities, legislation was seen to be necessary--both by Congress and by the administrations seeking the new authority. Although these past proposals varied in details about disposition and private operation of the enrichment facilities, they each presumed that the accepted route to be taken was new legal authorization from Congress.

---

[7] See, Civiak, supra, at 26-27.

[8] See for example, Uranium Enrichment Pricing Oversight, Hearing before the Subcommittee on Energy Conservation and Power of the House Committee on Energy and Commerce, 97th Congress, 1st Session (1981).

The fact that Congress has had before it legislative options to dispose of or sell enrichment facilities in the past and has not passed such proposals or has considered and rejected them gives significant added weight to the view that legislation is now required to sell such facilities.[9]

Department of Energy Solicitation of Interest

On April 3, 1986, the U.S. Department of Energy publicly requested an expression of interest for participation in the DOE uranium enrichment program.[10] That request stated as its purpose the objective of soliciting expression of interest "...from the private sector for the principal purpose of ascertaining the degree of interest and the terms and conditions required for financial and industrial participation in the U.S. DOE uranium enrichment enterprise."

Specifically, the April Department of Energy announcement in the Federal Register sought responses on the following matters:

> 1. An explicit statement of what the respondent is interested in, and the terms and conditions attached to the respondent's proposed participation in DOE's uranium enrichment enterprise.
> 2. A description of the financial ability of the respondent to honor his prospective commitment, including a description of the submitting organization's plans for supplying adequate working capital.

---

[9] In Youngstown Sheet & Tube Co. v. Sawyer, 343 U.S. 579 (1952), the Supreme Court found that the fact that the Congress had considered and rejected the enactment of specific statutory authority authorizing the President to seize the steel mills left the President without such authority.

[10] See, 51 Federal Register 11,811 (April 7, 1986).

3. Information regarding the management experience of the submitting organization and the experience of each officer or key person in the submitting organization who will be associated with the proposed participation.
4. The type of Government security clearances possessed by the firm and principal staff associated with the responses to this announcement.
5. A general description of the submitting organization's management concept and business plan or plan of operations to be employed in carrying out the proposal involvement, including participation in an industrial access program.
6. A statement of terms and conditions the Government must agree to in order to satisfy financial or operational requirements of the respondent.
7. Any other options, alternatives, etc., which the submitter believes DOE might wish to consider is assessing his options, or for consideration in the evaluation of various alternatives which are available to DOE.
8. The specific period of time during which the submitter would commit to participate in the program.
9. A statement of the estimated time that it would take the submitting organization to prepare a formal proposal under a competitive process should DOE seek same.
10. A brief history of the existing organization, including description of its domestic and foreign ownership.[11]

The foregoing description of information sought by DOE suggests that DOE intends to consider a wide range of alternatives for arrangements and alternatives that are not confined to sale. Moreover, the description also suggests that the information about the terms and conditions to be sought would be considered, but with no implication that DOE has the authority to implement those terms and conditions, whatever they may be, without legislation.

Nevertheless, the solicitation of interest by DOE has given rise to the question of whether DOE could sell its existing uranium enrichment facilities in the absence of the enactment of express authorizing legislation.

---

[11] See, 51 Federal Register 11,811, 11,814 (April 7, 1986).

Legal Authority

The Atomic Energy Act presently provides for both the acquisition and sale of certain real and personal property:

> In the performance of its functions the Commission is authorized to... acquire, purchase, lease, and hold real and personal property, including patents, as agent of and on behalf of the United States, subject to the provisions of [42 U.S. Code] section 2224...and to sell, lease, grant, and dispose of such real and personal property as provided in this chapter...[12]

On its face, this provision conveys a unique and broad authority for the sale and other disposition of property held under the Atomic Energy Act. However, other express authority in the Act must be identified in accordance with the phrase "as provided in this chapter," because the foregoing provision only authorizes the sale (etc.) if other provision is made for sale in the Act. The only other express pertinent provision of the Act is language that provides for the "special disposition" of property--a statutorily undefined authorization:

> In the performance of its functions the Commission is authorized to...without regard to the provisions of the Federal Property and Administrative Services Act of 1949, as amended, except section 488 of Title 40 [U.S. Code], or any other law, make such disposition as it may deem desirable of (1) radioactive materials, and (2) any other property, the special disposition of which is, in the opinion of the Commission, in the interest of the national security: Provided, however, That the property furnished to licensees in accordance with the provisions of subsection (m) of this section shall not be deemed to be property disposed of by the Commission pursuant to this subsection...[13]

On the face of this provision, it would appear that broad authority is conveyed to sell, lease, and otherwise dispose of property controlled by the government under the Atomic Energy Act. Two important express requirements must be met. The first is that the requirement under the Federal Property and Administrative Services Act be met in order to assure that the subsequent use of the property will not "create or maintain a situation inconsistent with the antitrust laws."[14] The second express requirement is that the special disposition be in the interest of national security.[15]

---

[12] 42 U.S. Code section 2201(g).

[13] 42 U.S. Code Section 2201(j).

But even if these two requirements are met, it appears that this provision is substantially more circumscribed when viewed in the context of the remainder of the Atomic Energy Act and its legislative history than it appears viewed in isolation.

Legislative History

These provisions appear to have originated in law with the enactment of the Atomic Energy Act of 1946.[16] Among other things, the 1946 Act established the Atomic Energy Commission and launched it on the course of promoting civilian and industrial uses for atomic energy. Prior to the Act, the major atomic energy activities had been the war-related development of the atomic bomb and other secret military research. Specifically, the 1946 Act provided in Section 12(a) as follows:

> In the performance of its functions the Commission is authorized to--
>
> * * *
>
> (7) acquire, purchase, lease, and hold real and personal property as agent of and on behalf of the United States and to sell, lease,

---

[14] 40 U.S. Code Section 488(a).

[15] It might be noted that the national security interests of the United States are not necessarily static and that various amendments to the Atomic Energy Act of 1946, discussed infra, suggest a different view of national security interests today than might have been contemplated in 1946.

[16] 60 Stat. 755 (1946).

> grant, and dispose of such real and personal property as provided in this Act; and
> (8) without regard to the provisions of the Surplus Property Act of 1944 or any other law, make such disposition as it may deem desirable of (A) radioactive materials, and (B) any other property the special disposition of which is, in the opinion of the Commission, in the interest of the national security.[17]

The committee reports on the 1946 legislation are silent with regard to an explanation of either of these two provisions.[18] Nevertheless, the Senate report, in its explanation for the creation of the Atomic Energy Commission and its duties made this important and pertinent observation about the 1946 legislation:

> Specifically, the testimony heard before the Christmas recess suggested answers to the main problems which had been raised by the three bills introduced before the hearings were begun. It suggested that the development of atomic energy, which was of paramount importance, could best be done by a full-time civilian commission. This Commission would require broad powers to stimulate private research and development and should be able actively to promote military as well as industrial and scientific research. The Commission should be required to own all materials from which an atomic bomb might be made and to operate all plants where these materials were manufactured. Legislation should make adequate provision for the protection of information of direct military value to a foreign power and for the role of the armed services in relation to military applications of atomic energy. [Emphasis added.][19]

The report further summarized the hearings by noting that "[i]ndustrialists and engineers who had participated in the operations of the Manhattan district project gave the committee their judgment on such points as Government versus private ownership and operation of plants producing fissionable materials, [and] ownership and custody of fissionable materials..."[20] But most important, the Senate committee detailed its reasoning concerning government ownership of materials and plants:

---

[17] 60 Stat. 755, 771 (1946).

[18] See, Senate Report No. 1211, 79th Cong., 2d Sess. (1946); House Report No. 2478, 79th Cong., 2d Sess. (1946); and, House Conference Report No. 2670, 79th Cong., 2d Sess. (1946).

[19] Senate Report No. 1211, 79th Cong., 2d Sess. (1946).

> From the start of its deliberations, the committee has been convinced that an absolute Government monopoly of production of fissionable materials is indispensable to effective domestic control of atomic energy. A number of factors point unmistakably in this direction:
>
> 1. Fissionable material is the principal ingredient of the atomic bomb. Thus, to permit private manufacture of fissionable material would be to permit private manufacture of material of enormous destructive potentialities.
>
> 2. The production of fissionable material is attended by serious hazards to public health and safety. The responsibility for minimizing these hazards is clearly a governmental function.
>
> 3. The future production of fissionable material is closely interrelated with the possibility of achieving effective and reciprocal international safeguards against use of atomic weapons. It is undesirable, therefore, to permit private development in an area which may soon be placed under Government control by reason of international agreements.
>
> 4. The production of fissionable material is technologically in its infancy; unforeseen and unforeseeable factors may play a great part in its development. To permit decontrol and decentralization of this activity, and weaken continuing Government supervision, would be contrary to the principle of prudent stewardship demanded of the Government by considerations of national defense and national welfare.
>
> 5. The technology of fissionable material production teaches that even a slight interruption in the manufacturing process may occasion great loss and damage to the entire operation. Government control is more likely to assure continuity of operation than is private control.
>
> Whenever possible, the committee endeavors to reconcile Government monopoly of the production of fissionable material with our traditional free-enterprise system. Thus, the bill permits management contracts for the operation of Government-owned plants so as to gain the full advantage of the skill and experience of American industry. Industrial research in the field of atomic energy is left to private initiative, even where it relates to methods of production.[21]

---

[20] Id., at 7.

[21] Id., at 14-15.

Thus, the Senate committee, the originator of the legislation, provided clear intent that the AEC facilities would continue under government ownership. Moreover, the language of the committee report and the bill made quite clear that the ownership of production facilities for fissionable materials included ownership of enrichment facilities. In Section 5 of the Senate bill the definition of fissionable materials expressly included enriched uranium 235, along with other materials.[22] The committee expressly coupled the bill's definition of fissionable materials with government ownership requirements under the bill in a manner that made quite clear that the bill was intended to require government ownership of enrichment facilities:

> Fissionable materials.--Fissionable materials are those capable of releasing substantial quantities of energy through nuclear chain reaction. Included are U-235 and plutonium; the Commission may, by regulation, add other materials to this class. Consistent with section 4, which provides for Government ownership of all production facilities and a Government monopoly of production, the ownership of all fissionable material is vested in the Commission and private ownership is forbidden.[23]

Even though the committee paraphrased the provisions that are specifically the subject of this analysis,[24] it seems clear that the committee did not intend to convey broad authorization under those provisions for the sale of government production facilities. When read against the backdrop of the other provisions of the Act and the committee's explanation, it would appear that the very structure of many of the Act's provisions was established precisely to avoid private ownership of both fissionable materials and production facilities. In fact, the committee made quite clear that it intended that the newly-established Atomic Energy Commission would take over all the government property and facilities relating to atomic research and production and that private production would be prohibited in privately owned facilities. This latter activity was made subject to criminal penalties.[25]

---

[22] Id., at 15.

[23] Id., at 17-18.

[24] Id., at 28.

For all these reasons, it seems fair to conclude that the Senate committee did not intend the "sale" provision of the 1946 Act to authorize the sale of production facilities--something precluded by other provisions of that Act.

The subsequent House committee report, while not as detailed as the Senate report on the foregoing matters, followed a similar scheme--both in the definition of fissionable materials[26] and in the requirement of government ownership of production facilities.[27] Like the Senate committee report, the House report coupled the two provisions:

> Section 4. Production of fissionable material
>
> Subsection (a) [of the reported bill] defines the term "production" when used in relation with fissionable material.
>
> Subsection (b) makes it unlawful, except to the extent authorized by subsection (c), for any person (1) to own any facilities for the production of fissionable material or (2) to produce fissionable material.
>
> Paragraph (1) of subsection (c) provides that the Commission shall be the exclusive owner of all facilities for the production of fissionable material other than facilities which (1) are useful in the conduct of research and development activities in the fields specified in section 3, and (2) do not, in the opinion of the Commission, have a potential production rate adequate to enable the operator of such facilities to produce within a reasonable period of time a sufficient quantity of fissionable material to produce an atomic bomb or any other atomic weapon. Paragraph (2) of subsection (c) requires the Commission to produce or to provide for the production of fissionable material in its own facilities, and authorizes the Commission to make, or to continue in effect,

---

[25] Id., at 30.

[26] House Report No. 2478, supra, at 5.

[27] Id., at 8.

> contracts with persons obligating them to produce fissionable material in facilities owned by the Commission.[28]

At conference, the resolution of differences between the House and Senate versions of the bill did not focus on changes relating to these matters. Thus, it may be concluded that as originally enacted the two statutory provisions that seem to authorize a wide range of property disposal activities did not authorize the sale of government production (enrichment) facilities.

The 1954 Act

In 1953, the Joint Committee on Atomic Energy held extensive hearings on the matter of atomic power development and private enterprise.[29] From those hearings came a number of ideas that were incorporated into proposed legislation amending the Atomic Energy Act of 1946. The principal aspect of the legislation was to provide for private ownership and government licensing of nuclear power facilities. Special nuclear materials could be leased but not owned by private interests.

Despite the significant modifications of the 1954 Act with regard to the use of nuclear materials by private parties, the reports from the Joint Committee on Atomic Energy to the House of Representatives[30] and the Senate[31] indicate that little was changed concerning the basic theme of the existing authority concerning the ownership of production facilities.[32] Although the statutory provisions regarding sale, lease and disposal were modified only slightly, it was quite clear that the AEC was to retain ownership of production facilities.

---

[28] *Id.*, at 8-9.

[29] See, Summary of the Hearing before the Joint Committee on Atomic Energy on Atomic Power Development and Private Enterprise, Joint Committee Print, Joint Committee on Atomic Energy, 83d Congress, 1st Session (1953).

[30] House Report No. 2181, 83d Congress, 2d Session (1954).

[31] Senate Report No. 1699, 83d Congress, 2d Session (1954).

The Private Ownership of Special Nuclear Materials Act

It was not until ten years later that Congress enacted the Private Ownership of Special Nuclear Materials Act[33] in 1964 to permit private ownership of special nuclear materials. The 1964 legislation is particularly important to the questions under consideration here for two reasons: 1) the legislation allowed for private ownership of nuclear materials and 2) the legislation authorized private enrichment activities subject to AEC licensing. Obviously, Congress felt the need to authorize these two activities by law, and no consideration was given to the possibility of directing AEC exercise of existing powers. For example special nuclear materials were authorized to be sold under the 1964 amendments, rather than directing that they be sold under the existing legal authority. There was no direction or authorization given in the 1964 amendments to sell the enrichment plants.

This fact attests to the view that the regulatory scheme in place since 1946 significantly circumscribed to powers to "sell" nuclear materials. Obviously the original statutory provisions in the 1946 Act--even though they applied to personal property--could not be read in light of the other provisions to authorize the sale of special nuclear materials. It bears repeating that in allowing private ownership of nuclear materials in 1964, Congress said nothing about private ownership of AEC facilities. The Senate report on the 1964 legislation provided a detailed discussion of the reasons for private ownership of nuclear materials but said nothing to suggest any change with respect to government ownership of enrichment facilities.[34]

---

[32] See, A Proposed Act to Amend the Atomic Energy Act of 1946, Joint Committee Print, Joint Committee on Atomic Energy, 83d Congress, 2d Session (1954).

[33] Public Law 88-488, 78 Stat. 602 (1964).

For all these reasons, it appears that the original intent with regard to the sale provisions of the 1946 Act as it was amended by the 1954 Act and the 1964 Act remains unchanged. Nothing in the legislative history of the later amendments suggests that the two provisions should now be read more expansively. Thus, the Atomic Energy Act does not appear to provide adequate authority for DOE to sell its uranium enrichment facilities.

Department of Energy Authority

When the Department of Energy was established in 1977, the existing functions of several agencies were transferred to the Department, and the Department was given several new statutory powers. Among the latter authorities was the power under Section 649 of the Department of Energy Organization Act[35] concerning the use of DOE facilities. The new statutory authority provided in subsection (b):

> In carrying out his functions, the Secretary, under such terms, at such rates, and for such periods not exceeding five years, as he may deem to be in the public interest, is authorized to permit the use by public and private agencies, corporations, associations, or other organizations or by individuals of any real property, or any facility, structure, or other improvement thereon, under the custody of the Secretary for Department purposes. The Secretary may require permittees under this section to recondition and maintain, at their own expense, the real property, facilities, structures, and

---

[34] Senate Report No. 1325, 88th Congress, 2d Session (1964).

[35] 42 U.S. Code Section 7259.

> improvements involved to a satisfactory standard. This section shall not apply to excess property as defined in 3(e) of the Federal Property and Administrative Services Act of 1949.

This provision appears to apply to the property formerly held by the Atomic Energy Commission, transferred to the control of the Energy Research and Development Administration in 1975, and finally transferred to the Department of Energy pursuant to the Department of Energy Organization Act of 1977.[36]

There does not appear to be any other general provision contained in the Department of Energy Organization Act that gives DOE the authority to sell real property or facilities. As a consequence, it can be reasonably implied that the authorization of leasing precludes sale, unless other authority transferred to DOE expressly provides for sale of real property or facilities. It does not appear that there has been any judicial interpretation of this provision of the Department of Energy Act.

We note that the Department of Energy has established extensive regulations governing the disposal of both personal and real property.[37] Although these regulations provide for what is called the "Used Energy-Related Laboratory Equipment Grant Program" that permits the DOE to donate used equipment (including Nuclear reactors[38]) to certain eligible educational institutions, it does not appear that any of the regulations generally provide for the disposal of real property, equipment, material, and other facilities.

---

[36] The Atomic Energy Commission was abolished and programmatic functions were transferred to the Energy Research and Development Administration by 42 U.S. Code Section 5914. Thereafter, the Energy Research and Development Administration was terminated and its functions were transferred to the Secretary of Energy pursuant to 42 U.S. Code Section 7151(a) and 7293.

[37] See, 41 C.F.R. Chapter 109 (1985).

[38] 41 C.F.R. Section 109-50.306 (1985).

The regulations do not expressly provide for the sale or other disposition of nuclear enrichment facilities.

This DOE statutory provision does not apply to "excess" property under the Federal Property and Administrative Services Act of 1949. As we will discuss in the next section of this report, this provision would appear to prevent DOE from allowing the use of property if it were to be designated for disposal as surplus government property. In effect, if property is "excess" it must be declared to be so to the General Services Administration and would not be available for "use" under this provision.

For all of these reasons, it appears that Department of Energy lacks general authority to sell real property or facilities. Moreover, it does not appear that the DOE regulations assert any such authority. Nevertheless, DOE does have the authority to lease for up to five years various facilities--probably including the various operational and developmental enrichment facilities. However, under this authority a lease, with a provision for later sale, would not appear to be authorized any more than a sale by itself.

GSA Authority to Dispose of Surplus Property

A separate, but related, line of legal authority for the disposal of property has been delegated by Congress to the General Services Administration. Generally, the GSA authority for the sale or other disposal of property is confined to "surplus property."

Under the Federal Property and Administrative Services Act of 1949, [39] Congress has authorized the General Services Administration to dispose of certain surplus real and personal property. The Department of Energy appears to be able to utilize the authority of that Act to dispose of certain property.[40]

---

[39] 40 U.S. Code Section 471 et seq.

Briefly stated, the statutory scheme permits federal agencies to determine that property under its control is "excess property"--property that is not required for its needs and the discharge of its responsibilities.[41] The agency is obliged to report its excess property to the Administrator of the General Services Administration, who possesses wide discretion in the temporary use and transfer of such property.[42] The Administrator may declare such real and personal property to be "surplus property"--property that is not required for the needs and the discharge of the responsibilities of any federal agency.[43] The Administrator, with certain specific exceptions, can then arrange for the disposal of the property--both personal and real, either separately or together--through a publicly advertised bidding process or under some circumstances through negotiation with a buyer.[44]

The applicability and usefulness of the disposal and sale provisions under this authority for the real and personal property utilized by the government for the operation of the gaseous diffusion enrichment facilities would seem somewhat limited. Under this authority, the sale of facilities would not necessarily assure that the facilities would be operated for enrichment purposes by the purchaser.

---

[40] Under the provisions of 40 U.S. Code Section 474, the authority to dispose of certain property is available to all federal agencies except certain agencies and government corporations that are subject to 31 U.S. Code Chapter 91. The Department of Energy is therefore able to use this authority to dispose of property in addition to authority formerly available to the Atomic Energy Commission. See, 40 U.S. Code Section 474(13).

[41] 40 U.S. Code Section 472(e).

[42] 40 U.S.Code Section 483.

[43] 40 U.S. Code Section 472(g).

[44] 40 U.S. Code Section 484(e). See also, 41 C.F.R. Part 101-47 (1985) with regard to the disposal of real property (and certain related personal property), and 41 C.F.R. 101-46 (1985) with regard to the sale, abandonment or destruction of personal property.

In light of the fact that the facilities are being operated by DOE at present, a DOE declaration that the property is excess (not needed for its needs and responsibilities) would appear as a practical matter to be legally difficult. Clearly, the performance of enrichment services is a DOE responsibility within the authorized mission of the agency. The services are needed by various public utilities as evidenced by the revenues generated. And, the declaration that the facilities are "excess" property by DOE and "surplus" by GSA would not necessarily assure enrichment services would be available.

The disposal of the property associated with the gas centrifuge enrichment plant (or its component equipment) is another case. Here, DOE decided to terminate research and development of the GCEP project. Under these circumstances, the determination that the equipment was "excess" under the Act seems reasonable. Discussions with the Department of Defense are apparently under way over DOD use of some parts of the facility and the equipment. The GCEP facility is not completed or in operation and is not a "going concern." The question arises, however, as to whether or not the essential parts of the facility could be sold as a package--that is, with all the necessary equipment, information, and real and personal property necessary for its operation by a private entity as an enrichment facility. In this regard, the sale of the GCEP facility is indistinguishable from the sale of the gaseous diffusion plants.

Admittedly, GSA (and the controlling agency) has broad administrative discretion under the Federal Property and Administrative Services Act to dispose of both real and personal property--together if the property is related. The lack of judicial precedent defining both the terms of the statute and the purposes for which its powers may be invoked evidence both the breadth of administrative discretion and the difficulty of challenging exercises of discretion. Nevertheless, the statute indicates that its purposes are to establish "an economical and efficient system" for the utilization of available property and the disposal of surplus property.[45]

Nothing in the statute suggests that it is intended to be used as a basis for making major and fundamental policy decisions to divest government ownership and terminate government operation of facilities otherwise provided for by law. On the contrary, a shut down of the diffusion plants, or the termination of the centrifuge project, and the liquidation of governmental property under these circumstances is arguably inconsistent with the needs and responsibilities of DOE. This view would appear to have added weight, if the purpose of the disposal of property was not merely to liquidate the government's interest. If the DOE also sought to arrange for the transfer of the facilities to private hands to assist in the creation of a going concern to continue to provide the very enrichment services that the Department of Energy is presently charged with providing, then the sale as surplus either of an operating gaseous diffusion plant or a potentially operable package of GCEP equipment would appear to be contrary to the DOE enrichment mission. Under those circumstances a more fundamental issue of government versus private sector ownership of the enrichment facilities is raised in a way that does not appear to bring such a disposal of facilities within the purposes of the Federal Property and Administrative Services Act.

---

[45] 40 U.S. Code Section 471.

Perhaps the most significant legal consideration with regard to the invocation of the Federal Property and Administrative Services Act as adequate legal authority for the disposal of operational enrichment facilities (whether the gas centrifuge facilities, or the gaseous diffusion plants) is the fact that the use of the Act for that purpose would permit a result that appears to have been circumscribed under the Atomic Energy Act--namely the sale of the enrichment facilities to private parties. The fact that the Federal Property and Administrative Services Act is referred to expressly in the Atomic Energy Act suggests that the authors of the Atomic Energy Act were familiar with the broad powers of the Property Act, but did not view it as a basis for circumventing the limitations on sale of facilities contained in the Atomic Energy Act.

One final observation might be made. The use of the Federal Property Act for the sale of facilities to a private party would not relieve the purchasing party from the legal obligations to obtain the requisite licenses if the plant were to be privately operated for enrichment purposes. The requirements of the Atomic Energy Act, and other laws, would continue to be applicable. Little administrative guidance is given for the disposition of property the use of which would be subject to extensive and continued federal regulation under the Federal Property and Administrative Services Act.[46] As a consequence, legislative specification of the terms and details of such a transfer might be more suitable than administrative action in addressing the many legal and policy implications of sale of property subject to its regulated use by a private party.

---

[46] Under 40 U.S. Code Section 483c, the grantor agency of certain specific excess property must assure that the property is being used for the special purposes for which it was granted, but this requirement is not applicable to general disposals of surplus property. A major requirement about subsequent use of surplus property is found at 40 U.S. Code Section 488 concerning the antitrust effects of the sale, as noted above.

Conclusion

The question of whether legal authority exists for the sale of any, or all, of the government's uranium enrichment facilities is a difficult question to address definitively. It does not appear from the many sources consulted relating to various historical proposals, the legislative history of pertinent statutes, or other authorities, that this specific question has been directly addressed. No clear precedents appear to exist for the sale of similar significant operational facilities by the Department of Energy or its predecessor agencies subject to the Atomic Energy Act.

Possible statutory authorities--the Atomic Energy Act, the Department of Energy Act, and the Federal Property and Administrative Services Act--each appear to have significant limitations for use as authority for the sale of the facilities under current circumstances. Certainly, it can be said that there does not appear to be express statutory authority for the sale of the enrichment facilities.

As we noted above, the unwillingness of Congress to enact past proposals that would have permitted the sale of the government's enrichment facilities suggests both the inadequacy of existing legal authority and the need to proceed legislatively.

There is little doubt that the sale of the gas centrifuge facilities or of the three operating gaseous diffusion plants to private enterprise constitutes a major public policy decision. That fact, alone, strongly suggests the need for clarification of the legal uncertainties surrounding authority to sell the enrichment facilities. Such a clarification can be given only by Congress through legislation. An administrative determination to proceed in the absence of clear legal authority may be ineffective in the face of Congressional opposition, for irrespective of the adequacy of existing legal authority, Congress can always intervene and prevent the sale of facilities through legislation.

For all these reasons, it would appear that the reasonable and prudent view of existing legal authority is that it is inadequate to authorize the sale of the enrichment facilities.

Robert D. Poling
Specialist in American Public Law
American Law Division
May 16, 1986

TELEPHONE: (202) 797-3000
TELEGRAPHIC ADDRESS: AUSTEMBA
TELEX: W. U. 892621
TWX: 710-822-9295

OFFICE OF
THE MINISTER (COMMERCIAL)
1601 MASSACHUSETTS AVE., N.W.
WASHINGTON, D. C. 20036-2273

EMBASSY OF AUSTRALIA

IN REPLY QUOTE:

19 May 1986

The Hon. Pete Domenici
Chairman
Energy Research and Development Subcommittee
Senate Dirksen Office Building
Constitution Avenue
WASHINGTON D.C. 20510

Dear Senator Domenici,

I have been asked by my authorities to write to you to put on the record the Australian Government's view of the amendment you proposed on 8 April 1986 to Senate Bill S1004 which was the subject of a hearing by your subcommittee on 10 April 1986. Our concern relates to Title 1 of the amendments entitled "Uranium Revitalisation, Negotiations to Voluntarily Restrain Uranium Imports".

Australia is a reliable and stable supplier of raw materials and energy and anticipates becoming a significant supplier of uranium to the United States over the longer term. Australian uranium is exported subject to a minimum pricing condition as well as other conditions which reinforce the nuclear non-proliferation objectives that Australia and the United States share in common. I would also mention that the Australian uranium mining industry operates without any form of subsidy or government assistance.

The Australian Government is of the view that the difficulties facing the United States uranium industry are not attributable to imports but rather to inappropriate policies of previous Administrations. It would be disruptive to the world uranium market if access to the United States, the largest commercial market for uranium,was again to be limited by Government restrictions. Moreover, we concur in the assessment of Ambassador Yeutter set out in his 24 December 1985 letter to Secretary Herrington. That letter reads in part:

> "In summary, action under the U.S. trade statutes does not appear to be appropriate in regard to both the short and long-term problems facing the domestic uranium mining and milling industry. Moreover, any remedy granted under existing law which might provide the extent of relief requested by the industry would only be short term, while at the same time having an adverse impact on our trade and other relations with important trading partners without resolving the long-term problems of the industry".

.../2.

In a more general sense Australia is concerned at the increasing level of its exports which are now subject to U.S. import restrictions. Over recent years, between 25-35 percent of our total exports to the United States have become subject to non-tariff restraints.

Based on Australian trade statistics United States exports to Australia expanded by one-third in the year ended June 1985, and there has been a consistent and significant balance of trade in favour of the United States which currently stands at 2:1 in your favour. Against this background any additional restrictions by the United States on Australian trade would be regarded with the utmost concern.

Accordingly, we would urge you to maintain free and open access to the U.S. uranium market, consistent with United States' commitments under the General Agreement on Tariffs and Trade.

I would be grateful if this letter could be incorporated as part of the record of the 10 April 1986 hearing on this matter.

Yours sincerely,

G.S.R. Wood
Minister (Commercial)

AMERICAN ENRICHMENT COMPANY, INC.
(AEC, INC.)
1800 M Street, N.W. Suite 1000
Washington, D.C. 20036
(202) 822-3812

May 15, 1986

Mr. K. P. Lau
Subcommittee on Research & Development
Dirksen Senate Office Building
Room 317
Constitution Avenue
Washington, D.C. 20510

Dear Mr. Lau:

Thank you for the opportunity to present a statement for the record concerning the activities of the American Enrichment Company, Inc. Our proposal to the Department of Energy to purchase a portion of the Gas Centrifuge Enrichment Facility for the purpose of completing it and operating it as a civilian commercial enterprise has received considerable public attention. It is my pleasure to now officially submit our proposal in its entirety for inclusion in the record.

By way of identification, the American Enrichment Company, Inc. (AEC) was formed in August of 1985 as a venture capital financed vehicle through which an offer could be made to the government to purchase a portion of the Gas Centrifuge Enrichment Facility at Portsmouth, Ohio. Our shareholders are numerous individuals and corporations who have an interest in the nuclear business. It is a consensus organization with no one group or individual having legal or effective control of the corporation. It is an American owned corporation.

AEC has assembled a group of highly qualified organizations to achieve its objectives. Boeing Engineering Company Southeast, Inc. (BECSI), a subsidiary of the Boeing Company, is our machine manufacturer; Ebasco Services, Inc., a subsidiary of Enserch, Inc., will serve as the plant constructor and operator; E. F. Hutton & Co., Inc., is our financial advisor; and Shaw, Pittman, Potts & Trowbridge, is our legal counsel.

The proposal's terms are straight forward and self explanatory. However, they have profound implications on the role of the Energy Department and on the development of nuclear power. Consequently, comments and expansions on some of the key provisions of the proposal are included in this letter. The policy implications may warrant examination by members of the Energy Committee. We welcome discussion in an open forum.

The provisions of the proposal which call for the administrative implementation of private acquisition of the centrifuge facility without Congressional legislation and for the initial operation of this facility without NRC licensing have generated the most interest. These provisions are based on solid legal foundations and highlight some very broad policy concerns related to nuclear power. They offer the opportunity to cut through the ponderous regulatory and legislative system in which we as a nation have enmeshed ourselves. Furthermore, our proposal introduces some long overdue vitality into the nuclear industry with respect to the most benign and controllable aspect of the nuclear fuel cycle, namely production of enrichment services.

Regardless of the legal path that may be employed, no significant policy change occurs in the nuclear area without the express consent of the Congress and the Administration. We believe, however, by finding a route through the legislative and regulatory system which permits an action to be achieved administratively, that a debate can occur and progress can be made in a significant fashion without hampering the ligitimate concerns for public safety and congressional prerogative. In many ways, our offer proposes that a balance be struck among three competing interests, Congressional oversight, NRC regulatory control, and cost effective electrical power. All of these interests are essential.

Let me state, that without some definite predictability being imposed upon the NRC licensing process, no privatization of enrichment services production would be possible. Simply stated, no corporation or investment entity would or could take the enormous financial and political risk. It is simply easier to continue the status quo in which the government provides enrichment services for civilian fuel without any NRC regulatory oversight whatsoever.

What we are proposing is an organization which will have no government subsidies, no government guarantees, and no government loans. Such a proposal to the government is truly unique. It can be achieved however, only if a realistic bracket can be placed on the regulatory and legislative uncertainties. Consequently, one of the policy objectives of our proposal, in a broad sense, is to permit the implementation of the Administration's goals both with regard to privatization and to the encouragement of independent American energy sources. We have an opportunity to transfer a portion of the government's commercial functions to private ownership and management and to do it with private capital without a burden on the taxpayers.

The Department of Energy, in fulfilling its statutory role under the Atomic Energy Act, is responsible for the regulation of the enrichment complex as long as it retains title to those facilities and maintains physical control of the facilities as required by the Act. AEC proposes to operate the gas centrifuge enrichment complex under DOE safety regulations on an interim basis until an NRC license is obtained. This enables AEC to deploy equipment and come into operation using the DOE production facility on an interim leased basis. At the same time, however, we offer a unique opportunity to those who are truly concerned about the safety of nuclear power. Namely, for the first time, we present the opportunity to create a NRC licensing structure for uranium enrichment facilities.

Under the mechanism which we propose the NRC licensing process is not a prerequisite to the completion and deployment of a portion of the centrifuge facility. However, what is presented for the first time is the ability to establish criteria for the licensing of uranium enrichment production facilities. In the absence of our initiative, there would be no opportunity whatsoever for an environmental examination in an open forum of the licensing criteria appropriate for a uranium enrichment production facility. Hence, a compromise is struck between implementing and bringing on line the centrifuge production facilities on the one hand, and creating a regulatory structure which will govern the licensing of all future enrichment production facilities on the other.

The other significant interest is the prerogative of Congress to review and decide significant questions of nuclear policy. Because this proposal does not need Congressional approval in the strict legislative sense, it forces the debate to a much broader policy level, to examine, not whether this particular facility should or should not be permitted to operate in private hands, but rather, to focus on what should be the appropriate structure of the Atomic Energy Act relating to a greater private involvement in those areas which have up until now, been an exclusive government monopoly. This places a burden on the Congress: 1.) to affirmatively stop the progress initiated by implementing the AEC proposal; 2.) to accept progress and to reshape the rules by which subsequent uranium enrichment production facilities will be deployed, or, 3.) to do nothing.

For example, Senator Domenici has introduced legislation which attempts to create a "progress" environment. It would create a public-private hybrid corporation for the privatization of the entire U. S. enrichment enterprise. The AEC proposal is consistent with the provisions of the Domenici Bill; AEC can sell its production, during the period while AEC is seeking an NRC license, to either the new U. S. Enrichment Corporation or the the Department of Energy. More importantly however, the implementation of the AEC proposal through the NRC license, creates a competitive environment against which both the DOE and other potential entities must be judged.

If the Congress "kills" the AEC idea by negative legislation, then it returns the production of nuclear fuel into the monopoly hands of the government. As a consequence, private risk capital evaporates, to return only when appropriate government guarantees will protect it.

This proposal puts a time burden on the Congress. If the Congress does not stop the AEC project or modify the existing Atomic Energy Act, then the process proceeds and the civilian plant can come on line. In effect, this proposal has put self limiting compromises on all players, thus, forcing decisions in a limited time and allocating clear responsibility to those who would make decisions.

Another significant element is that our proposal represents the beginning of a new American Industry. If private enrichment is permitted, and can be successfully operated, then we have most likely seen the last of government appropriations for providing new production facilities for what is essentially a commercial and economic enterprise. It reallocates government resources to other programs and permits a truly market place-oriented professional management to be used in the operation of at least a portion of the enrichment facilities. This will permit America, which today, possesses the best enrichment technology in the world, to compete on an equal footing with foreign competition.

This proposal also provides two "no cost" insurance policies to the government which have enormous potential value to the Federal Treasury and to the maintenance of an American enrichment industry.

The first insurance policy protects the DOE's decision to pursue the advanced laser isotope separation (AVLIS) process. If that decision proves to be incorrect, too expensive, or if the private capital needed to develop the AVLIS process to commercial readiness is not available, the U.S. has preserved the centrifuge technology which can be expanded from this AEC base to cost effectively provide the production anticipated from AVLIS. In addition the development scheme enunciated by the DOE for AVLIS requires $2 to $5 billion to be raised privately in the late 1990's to deploy AVLIS. Raising private capital without a government guarantee is much easier if a working profit making entity already exists. A successful AEC can be the financing mechanism for the next generation of enrichment capacity, regardless of the technology.

The second insurance policy relates to unanticipated increases in the cost of electrical power for diffusion operation. Six years ago, the "high confidence" DOE estimates for diffusion operations were more than 50%-60% higher than today's actual costs. If the DOE is again incorrect in its diffusion power cost estimates by the same amount, in the other direction, disaster will result.

The existence of an expandable alternate source of enrichment supply provides a hedge against risks in the DOE program. Prudent management should accept insurance against uncontrollable contingencies especially if it is a no cost insurance policy.

The Federal Government has invested $2.7 billion in the development of the centrifuge enrichment process. To walk away from that investment is simply foolish when a private corporation is able to invest considerable capital to finish the job at no risk to the government.

When the AEC project is successful, not only are taxes paid, but a royalty payment can also be paid to the government. In fact, if additional capacity is later added (i.e. beyond the 750,000 SWU contemplated in our proposal), then additional royalties would be paid to the government. This at least provides mechanisms, on an incremental basis, for returning to the government some of its past investment.

The modest size of this proposal belies the significant policy step which it represents. In many ways, the private investment community recognizes that such a modest and achievable project is far more likely to be implemented than any of the larger privatization proposals before the Congress. In many ways the investment community is looking at this enterprise as a test of the Administration's resolve to depend on the private sector for the efficient allocation of resources in commercial enterprises, and as a test of the Congressional will to create a new investor owned industry and in a small way protect American jobs.

Our AEC consortium has taken an uncomfortable risk, we are "the first kid on the block" and we shall receive the political "heat" and the resulting economic risk associated with the trial of a new idea. History is replete with stories of innovators who failed, only to be posthumously credited as defining a path for subsequent but much later investment. We have a window of opportunity, today.

Thank you for the opportunity to present our thoughts on this issue.

Very truly yours,

Dominic J. Repici
President

Enclosure

cc: Dr. Paul J. Gilman

PROPOSAL

TO

THE UNITED STATES GOVERNMENT

FOR THE

PRIVATIZATION OF GAS CENTRIFUGE ENRICHMENT

FACILITIES AT PORTSMOUTH, OHIO

Submitted by the
American Enrichment Company, Inc.
1800 M Street, Northwest
Washington, D.C. 20036

February 19, 1986

PROPOSAL

TO

THE UNITED STATES GOVERNMENT

FOR THE

PRIVATIZATION OF GAS CENTRIFUGE ENRICHMENT

FACILITIES AT PORTSMOUTH, OHIO

EXECUTIVE SUMMARY

The American Enrichment Company, Inc. (AEC) proposes to the United States Department of Energy (DOE) that AEC be permitted to purchase selected portions of the Gas Centrifuge Enrichment Plant at Portsmouth, Ohio and that AEC be permitted to purchase all rights to the gas centrifuge technology as it applies to uranium enrichment.

AEC intends to complete construction of selected portions of the Portsmouth centrifuge facility, sufficient to produce 750,000 SWU of enrichment capacity, based on deployment of current state of the art centrifuge machines (Set III). The Boeing Engineering Company Southeast, Inc. (BECSI) has agreed in principle to supply centrifuge machines to AEC, subject to AEC reaching a workable agreement with DOE and securing the necessary private financing. Further, AEC is in serious discussions with both Boeing and Burns & Roe regarding the role of plant operator.1/ The analyses conducted by AEC to date with Boeing input show that this proposal can be beneficial and profitable to both DOE and AEC.

AEC will assume the entire financial risk of completing and operating this facility. No subsidy or capital outlay from DOE is required or needed. In order to finance this venture, AEC would require DOE to sign a contract agreeing to take 100% of the output of this plant during its initial operating phase on a price basis consistent with DOE's avoided costs and market realities. During this early production period AEC would seek a civilian operating license from the NRC.

1/ Subsequent to the submission of this proposal, Ebasco Services Incorporated has become an equity participant in AEC and will serve as plant constructor, engineer and operator.

This interim contract would be a production contract, i.e. a "take and pay" arrangement whereby DOE would take the entire plant output as produced. If the enterprise fails, DOE has no obligation. This contract must be of sufficient duration to facilitate the debt and equity financing of the purchase.

Legal title to sensitive facilities and to classified technology, as required by the Atomic Energy Act, would remain with DOE until an NRC license is issued. AEC believes this approach, i.e. "wholesale supply" to DOE and legal title remaining with DOE, would permit the private operation and effective ownership of this enrichment facility without the need for NRC licensing. Absence of the requirement for an oprating license permits the AEC proposal to be expeditiously implemented, with the plant completed, brought on-line and operated, thus generating cash flow while the licensing process is underway. Upon issuance of the NRC license, the temporary production contract with DOE would either cease or phase out in a manner consistent with satisfying financial requirements. AEC would then become a competitive supplier in the open market, paying both royalties and taxes to the government.

Our financial advisor, E. F. Hutton & Company Inc., believes that under these circumstances the initial capital investment (approximately $150 million) can be privately raised by AEC with appropriate agreements from DOE.

AEC recognizes that DOE has spent in excess of $2.7 billion to develop the Portsmouth Gas Centrifuge Enrichment Plant. Inquiries conducted independently by DOE and by AEC indicate that there are no interested purchasers, at any price, for the entire centrifuge complex; the capital required to complete the facility is simply too large and the political and institutional uncertainties are simply too great. Our proposal to complete a 750,000 SWU capacity increment represents approximately the maximum level of risk capital which can be currently raised. There is value in the government's past investment only if a mechanism can be established and implemented for private investment to enter without undue and prolonged government regulation or artificial policy constraints.

Consequently, AEC views its plan to privatize a portion of the centrifuge enrichment facility as being a first step. It will show the financial viability of private enrichment investment and hence establish for the financial community an operating institutional model for privatization of this and other government activities. The success of AEC's plan will establish investment value and create a financial market for a subsequent sale of DOE's remaining enrichment facilities and for privatization of its advanced technologies on a competitive basis, should the government choose that path. Without attracting private capital investment, the past government investment of $2.7 billion is worthless. Furthermore, the next increment of enrichment, from whatever technology, would then have to be government financed.

Therefore, it is the purpose of this proposal both to create cost effective enrichment capacity without subsidies and to provide a credible financial and operating model which shows to the investment community that private uranium enrichment is a viable business.

In sum, we are proposing a mechanism which will permit the U.S. Government, if it chooses, to ultimately get out of the enrichment business without subsidies or expense, receive value for its past investment, and in the process create a private American industry which can be competitive in the world market.

KEY PROVISIONS OF THE AEC PROPOSAL

A. Key Provisions

The key provisions of the AEC proposal which make it attractive to both government and to private investment include the following:

1. The initiation of the privatization process under existing DOE administrative authority.
2. The ability to complete construction, initial operation, and licensing of the gas centrifuge enrichment facility while title remains with DOE during the civilian licensing process.
3. An interim production contract between DOE and AEC which would provide wholesale enrichment services to DOE at competitive prices and likewise provide AEC with sufficient cash flow to support the necessary financing.
4. The ability to use financial flexibilty not possessed by the government.
5. Aggressive and entrepeneurial private professional management.
6. The ability to cost-effectively compete world wide.
7. Actual purchase of government interests - no further cost or risk to the government if the project fails.
8. Placing the entire economic burden on AEC and sharing the regulatory burden and financial benefits between DOE and AEC.

B. Discussion

1. Administrative Authority

Properly structured, DOE can conduct the sale under administrative authority which it now possesses. Under the general provisions of the Atomic Energy Act (the Act), DOE is permitted to sell its property or assets and to generally conduct its business without Congressional approval [cf. 42USCA2201(g)]. The Department also has the current administrative authority to lease its sensitive assets and to accept outside construction or completion of facilities as payment for that lease as long as title and control remain with DOE. Upon issuance of an NRC license, AEC may then, under the provisions of the Atomic Energy Act, purchase the leased assets. The appropriate committees of the Congress would, of course, be kept fully informed on the details of any such arrangement so that impacts on their constituencies can be properly factored into the decision-making process. However, no positive Congressional decision is needed.

2. Initial Facility Ownership

The Atomic Energy Act requires that DOE maintain legal ownership of unlicensed facilities dealing with special nuclear material and furthermore requires that any relationship with private industry must be "...for the account of DOE." Under AEC's proposal, DOE would lease the centrifuge equipment, facility and technology to AEC, while retaining legal title and physical control over the sensitive technology and special nuclear material inventory. In addition, the AEC proposal envisions sale of the entire plant production on an interim basis directly to DOE at wholesale on a mutually agreed basis. This procedure constitutes operation "for the account of DOE" with legal title remaining with DOE, thus satisfying the Act. Operating in this manner would permit the completion of the facilities leased from the Department, the operation of those facilities during the licensing phase, and hence the early generation of a cash flow stream. Thus, the process can "get underway" prior to issuance of an NRC license.

3. Interim Production Contract

An interim production contract would be concluded between AEC and DOE which would provide wholesale enrichment services to DOE at competitive prices (for example near the DOE's avoided cost of gaseous diffusion base load production). The exact price, duration and terms of this contract would be determined by negotiation between DOE and AEC in such a manner as to facilitate the debt and equity financing of the purchase. AEC believes that there is adequate profit potential in the difference between its anticipated cost of production and the cost of DOE gaseous diffusion base load production to allow agreement on a mutually beneficial contract. In the early 1990's when the full production of the 750,000 SWU plant would come on stream, there will be a significant increase in the demand for enrichment services. The in-service date will be at a time during which DOE must add or reactivate enrichment capacity to fulfill its contractural obligations to its utility customers. There is risk to the government that its costs for reactivating mothballed facilities will be greater than anticipated. Likewise, there is risk that the current government estimates understate the anticipated cost of electrical power in the early 1990's needed for diffusion-based enrichment production.

If full cost recovery is still a provision of the Atomic Energy Act in the early 1990's, then there is considerable risk that the price DOE must charge for its enrichment services will increase significantly. The AEC interim production contract, therefore, would provide the DOE some insurance for a modest portion of production capacity (750,000 SWU) on a pricing structure determined on the basis of today's data, thus establishing a portion of DOE's future costs. Likewise, this contract would provide necessary collateral for the private financing of the completion of the centrifuge facility.

4. Private Financial Flexibility

Under current law the DOE cannot borrow money from the private financial markets to finance either construction or operation of its enrichment facilities. It must fund its operation completely out of revenues. In addition, current Administration policies and the prospects for continued tight budgetary conditions have placed a further burden on the ability of the enrichment program to use its revenue stream to modernize or commit to capital improvements. Private enterprise would not be burdened by such financial restrictions. AEC can raise money in the capital markets by issuing debt securities and selling additional equity in the gas centrifuge enrichment facility. The DOE does not have direct access to the capital markets.

5. Private Professional Management

A profit-motivated management can be far more aggressive and entrepeneurial than can government employees operating under excessive political and bureaucratic restraints. In addition, private management means that the operation of the enrichment facilities does not get involved in the annual budget process or in the larger discussions or disagreements between the Congress and the Administration. Private management is responsible to its stockholders, taking the necessary risks and making the necessary business judgments in a timely and expeditious fashion. This speed and aggressiveness is simply not possible with government operation.

6. Compete World Wide

Once the enrichment facility is licensed by the NRC, and after the initial enrichment contract with DOE has been fulfilled, AEC has the ability to compete aggressively for commercial enrichment contracts as well as to expand its financial commitment and increase production capacity. It is generally recognized that the centrifuge technology developed by DOE is by far the most technologically advanced in the world. This technological advantage can be turned to price advantage and hence permit AEC not only to check the potential loss of American utility contracts to overseas competition, but also to aggressively compete in the foreign market on the basis of market reality, not on the basis of artificial government constraints. This presents the opportunity to bolster the American share of the enrichment market and thus support the Administration's efforts to reduce the trade deficit.

7. Actual Purchase for Value

AEC intends to purchase DOE's interest in portions of the uncompleted gas centrifuge enrichment facility. The actual purchase price and the payment profile would be subject to negotiation betwen DOE and AEC on the basis of the value which those facilities have as an asset or liability to the government and as an asset to AEC. The key point at issue is that these facilities have value only to the extent that additional capital can be raised to complete them. No government subsidy is intended or required. AEC believes that it can structure the purchase agreement such that there is no further cost to the government, whether hidden or explicit. If the AEC program should fail, then DOE would simply continue its plan of operating its diffusion facilities and eventual commitment to other enrichment processes. AEC also believes that the sale to it by DOE can be essentially risk free to the government. The actual purchase price and the mechanism for payment would depend on the speed with which the NRC license can be procured and the price at which DOE will agree to purchase enrichment services.

8. Economic, Regulatory and Financial Aspects

The two stage process envisioned by AEC in its purchase of the DOE interest permits the early generation of cash flow during initial plant operation while obtaining an NRC license. AEC assumes the financial burden of the enterprise, i.e., AEC is required to raise the capital necessary to complete the facility and to bring it on line in as expeditious and cost efficient manner as possible. The regulatory burden to license the facility is shared between AEC and DOE since the maximum profit potential to both AEC and DOE occurs when AEC can operate in a competitive world wide market, i.e., when AEC obtains its NRC license. In effect, there is an economic imperative on both AEC and DOE to expeditiously complete the licensing process. When that process is completed, the financial benefit of increased profit margins from contracts obtained in the competitive marketplace accrues to both DOE and to AEC. This permits AEC to pay DOE the purchase price more rapidly. In a broader sense, this also becomes the time during which taxes are paid to all levels of government.

It should be emphasized that the typical cooperative program between DOE and its energy demonstration contractors has always involved cost sharing between DOE and private industry. That is not the case here. What is envisioned is a new, cooperative role between government and industry, in which the financial burdens and the enterprise decisions are carried entirely by AEC, but where, to a modest degree, the regulatory burdens are shared by government and industry. What is sought is DOE's cooperation in making an economic enterprise work, an enterprise which is beneficial to the national interest.

WALKER F NOLAN, Vice President, Legislative Affairs

EDISON ELECTRIC INSTITUTE The association of electric companies

1111 19th Street, N W
Washington, D C 20036-3691
Tel (202) 828-7400

April 24, 1986

The Honorable Pete V. Domenici
Chairman
Subcommittee on Research and
   Production
Committee on Natural Resources
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

The Edison Electric Institute (EEI) appreciates the opportunity to provide its views relevant to S.1004, the Uranium Revitalization and Tailings Reclamation Act of 1986.

Enclosed, please find our statement. We respectfully request that it be included in the record of your April 10, 1986 hearing.

Sincerely yours,

Walker F. Nolan

WFN:fds
Enclosure

Statement for the Record
of the Hearing of April 10, 1986
Submitted by the
Edison Electric Institute
to the
Subcommittee on Energy Research & Development
Energy and Natural Resources Committee
U.S. Senate

on the

Proposed Uranium Enrichment Services Criteria
Published by the Department of Energy on January 29, 1986
and
Amendment to S. 1004, Uranium Revitalization
and Tailings Reclamation Act of 1986

The Edison Electric Institute (EEI) is the national association of investor owned electric companies. Its members serve approximately 73 percent of all ultimate electricity customers in the nation. They operate 85 nuclear plants and currently have 17 additional units under construction. These nuclear utilities are the majority of the domestic uranium enrichment customers of the Department of Energy (DOE) and the majority of domestic commercial users of uranium.

On January 29, 1986, DOE published a Notice of Proposed Rulemaking, 10 CFR Part 762, Proposed Uranium Enrichment Services Criteria. EEI submitted detailed comments to DOE on February 28, 1986 and a copy of those comments is provided as Attachment A to this Statement. After DOE finalizes the Criteria and submits them to Congress for its consideration, we desire the opportunity to provide specific input to the Congress to assist its review of the Criteria.

Domestic nuclear utilities generally support the DOE uranium enrichment program because it has delivered a quality service on a timely basis. However, the proposed Criteria represent significant and substantial changes over those in existence. While most elements of the Criteria appear reasonable, there is one element that we believe is inappropriate and unsupportable, namely, the value assigned for the alleged unrecovered prior Government costs. We oppose strongly the implied concept, in the proposed Criteria, that the DOE uranium enrichment program owes a large amount of money to the U.S. Treasury for prior unrecovered costs. Even before the Criteria are finalized, DOE has called for a payment to the U.S. Treasury of $235 million from the revenues for enrichment services in the FY 1987 Budget Request. Congress is urged not to approve payment to the U.S. Treasury by the enrichment program until the concept of prior unrecovered costs has been reviewed in detail and a specific value is established by Congress for the total obligation, if any. The value established in Sec. 213.(c) of the Amendment to S. 1004 may turn out to be a supportable value by Congress, once the details are reviewed fully.

The Uranium Revitalization and Tailings Reclamation Act of 1986 was introduced as an Amendment to S. 1004 on April 8, 1986. Several sections of the Amendment contain provisions that may provide positive benefits to utilities and their electricity customers, while other sections impose adverse effects on utilities and their customers. The following list indicates some positive and some negative aspects of the Amendment from the point of view of the electricity customers:

Positive Aspects

- Title II specifically sets a limit of $350 million for the complete ~~value~~ of "...any and all debt the Department of Energy Uranium Enrichment Program has incurred prior to FY 1986." Utilities believe there are no unrecovered costs, while others have indicated a higher value for this item. The value of $350 million appears to be a supportable compromise.

- Title III provides Congressional approval for the Utility Services Enrichment Contracts. We applaud Congressional validation of the contracts. However, contract validation can only be supported in conjunction with a value of no greater than $350 million for prior unrecovered program costs, as established in Title II.

- Title IV provides for a first step toward reorganization of the U.S. uranium enrichment program. Establishment of a mixed private/Government Corporation as this first step to eventually achieve competitive privatization for uranium enrichment in the U.S. appears desirable.

Negative Aspects

- Title I establishes restrictions on the amount of foreign origin uranium that may be used in domestic nuclear power reactors. U.S. utilities oppose the establishment of trade barriers because it would result in higher costs for the electricity customers.

- Title II establishes a uranium mill tailings fund with contributions from several parties, including operators of civilian nuclear power reactors. Electric utilities have paid already, as part of the price paid for uranium, for the stabilization of uranium mill tailings that resulted from the production of uranium used in commercial programs.

The remainder of this statement provides detailed views of the nuclear utility industry on the recently proposed Uranium Enrichment Services Criteria and the Amendment to S. 1004.

URANIUM ENRICHMENT SERVICES CRITERIA

The U.S. enrichment services activity must be run on an efficient basis, recognizing the reality and the economics of a very competitive international market. It is appropriate to periodically modify the activity, to accommodate the market place, by taking steps such as revising the Criteria. Appropriately, some sections of the proposed Criteria provide contracting flexibility that appears to be needed in order for the program to compete effectively. However, the aspect of the proposed Criteria that alleges a large value for unrecovered prior Government costs to be recouped in future prices is a major policy change to the administration of the enrichment activity. This new policy, included in Section 762.6 of 10 CFR 762, Recovery of prior unrecouped Government costs, is inappropriate and unacceptable. The electric utility industry does not accept DOE's premise that the enrichment program has accumulated prior unrecovered Government costs of $7,522 million in serving civilian customers, or that future prices for civilian services should reflect large values of such unrecovered costs.

Congressional Direction

The initial Congressional intent for the uranium enrichment activity is clearly expressed in the record of hearings before the Joint Committee on Atomic Energy. Significant guidance was provided in a letter of October 18, 1966 from Chet Holifield, Chairman of the Joint Committee, to Dr. Glenn T. Seaborg, Chairman of the Atomic Energy Commission. The following quote is from that letter:

> "We recognize that accounting procedures applying to facilities which were constructed for and devoted to military production and now used for civilian nuclear fuel production, necessarily cannot follow standard industrial or Government procedures in all respects."

Also, in a letter of August 10, 1984, from the General Accounting Office to Congressmen Dingell and Ottinger, it is stated:

> "DOE is not required to have a formal plan for repaying the Treasury for the government's cost of providing uranium enrichment services, nor does the legislative history indicate that the Congress intended the program to make specific repayments to the Treasury as is the case for some other programs."

Each and every year since 1969, Congress has reviewed and approved the uranium enrichment services budget, and at no time did Congress indicate that prior costs were being accumulated to be recovered at some later date. Congress did not permit or require the uranium enrichment activity to establish a debt account that would suggest such an obligation. Each year, Congress directed DOE to use the enrichment program revenues to pay for operating costs, research, and the expansion of production capacity. Congress did not believe a debt was being accumulated by the enrichment activities. Congress did believe appropriate costs for enrichment services were recovered in the prices charged by the Government.

In some other instances where the Government provides services, Congress specifically permitted the establishment of debt. Debt is permitted for the Tennessee Valley Authority, for Power Marketing Agencies, and is even permitted for the Nuclear Waste Program. This clear distinction of not permitting the enrichment activities to establish a debt account appears to have defined the intent of Congress that a debt was not to be accumulated.

Major New Basic Policy

The Administration is requesting a major change in the basic policy. This new approach does not reflect the understanding of the domestic commercial customers who have purchased enrichment services from the Federal Government over the past sixteen years. Prices were set each year on the basis of recovery of Government cost, and the customers paid for the services on that basis. There was no indication that some amount of additional Government costs was to be carried forward and recovered at a future date.

As a program accounting decision, the DOE has reduced the Government investment account by $4 billion, by a write-off of plant capacity that will not be used in current or future enrichment operations. This accounting step appears to be appropriate. After the write-off, the remaining value of about $3.5 billion might be an appropriate value of the net assets, which include very large inventory values. However, the value of these assets should not be viewed as "prior unrecovered Government costs", designated retrospectively, to be paid to the U.S. Treasury.

Basis for the Presumed Prior Unrecovered Government Costs

The U.S. General Accounting Office (GAO) has evaluated the uranium enrichment program in detail and provided its views on what it considers to be the "government's unrecovered enrichment costs". GAO has suggested a methodology that does not recognize an appropriate allocation of the costs for purposes other than serving commercial customers and that does not recognize the actions of Congress in its annual budget reviews. Specifically, GAO defines the total Government cost as the sum of; (1) the Government's initial investment in the program, (2) all appropriations, and (3) imputed interest. This simplistic methodology ignores or inappropriately dispenses with the following:

- Direction provided by the Joint Committee on Atomic Energy, to the Atomic Energy Commission, when the initial criteria were established and subsequently modified,
- Annual Congressional direction provided during the budget reviews each year in which Congress directed the Administration to use program revenues to offset operating expenses, perform research and to expand the production capacity,
- The lack of Congressional authority to establish a debt account for the enrichment activity that would recognize any unrecovered government costs,
- The initial government investment set up on the books in 1970 was paid for in prior years by the Nation's taxpayers for military reasons,
- Appropriate allocation of costs that were incurred for military purposes,
- Appropriate allocation of costs that were incurred for non-proliferation/National Security reasons, and,
- Program Appropriation values that were not actually spent by the Administration in the enrichment program.

The DOE and the Office of Management and Budget (OMB) appear to have taken a distinctly different approach to the newly defined "prior unrecovered Government costs". They apparently started with the line item in the Uranium Enrichment Activity Annual Report called "Government Investment" and redefined this line item, retrospectively, as "prior unrecovered Government costs". In prior years, the Government Investment was shown as the value of the total assets minus total liabilities. This value has no accounting basis or logic for being reclassified as "prior unrecovered Government costs." The approach by DOE and OMB does address the need to write-off the value of the plant that will not be used in current or future enrichment operations. However, like the GAO approach, it appears to improperly dispense with the first six items listed above.

Congress should review the GAO and DOE/OMB methodologies carefully, in light of the above concerns, before it accepts the concept that payments are to be made to the U.S. Treasury using civilian revenues from enrichment services. A sound approach that recognizes the intent of prior Congresses may be to create each year a Statement of Operations on the basis of Generally Accepted Accounting Principles, showing military, national security, commercial customer, and any other critical elements in separate columns. Such a statement would provide valuable guidance essential to an equitable cost allocation. The data on the Statement of Operations would provide key facts required for calculation of a current value of the enrichment enterprise on an earnings basis, and the deficits, surpluses, etc., which might be relevant at any time.

A more reasonable and supportable approach, to determine if there are legitimate prior unrecovered costs applicable to civilian customers, is to subtract the civilian revenues received each year, over the period of 1969 through 1984, from the enrichment program outlays during each year. Also, an appropriate full cost of production for the defense products should be assigned for each year. This approach defines the total outlays, over the period from 1969 through 1984, as $14,880 million and the total civilian revenues as $13,320 million, leaving a net of $1,560 million over the sixteen year period. When appropriate production costs are assigned for military enrichment, they have a value of about $1,430 million over the period. The difference between $1,560 million and $1,430 million is $130 million that might be assigned as net outlays for civilian service activity. But this does not provide any other allocation of costs, such as facility expenditures required for safeguarding the high enriched uranium produced for defense purposes or the carrying cost of inventory provided for non-proliferation/national security policies.

Since these outlays occurred in different years over the sixteen year period, it may be appropriate to apply an imputed interest value on the net yearly outlays. Such an imputed interest value appears to be about $220 million. The sum of the $130 million civilian outlays, and the imputed interest thereon of $220 million, provides a total of $350 million for civilian outlays plus interest.

As previously noted, the above analysis does not recognize the fact that specific facility expenditures were required for safeguarding high enriched uranium produced for military purposes. Additionally, no recognition was given for the costs associated with the Government's non-proliferation/national security policies. In fact, if charges were properly assigned to these items, it could be concluded that the revenues from civilian customers for enrichment services exceeded the costs of providing the service, and were used to subsidize the defense and non-proliferation policies of the Federal Government.

If Congress decides that the enrichment activity should make future payments to the Treasury, it must also recognize that the U.S. enrichment program is now serving an international competitive market, and the dynamics and economics of that market will dictate the prices that can be charged for enrichment services. Any program for paying money to the Treasury must be part of a broader plan to allow DOE to price its services competitively.

Enclosure 1 of the EEI comments of February 28, 1986 to the DOE on the proposed criteria (Attachment A to this statement) provides supplemental information with a further discussion on several aspects of the Criteria.

The uranium supply industry has commented on the proposed Criteria, suggesting that it should be a vehicle to rejuvenate their business sector. While the current status of the uranium supply industry is unsatisfactory to that industry, the Criteria should not be used as a vehicle to establish a preferred position for the domestic uranium supply industry. The domestic uranium supply industry concerns are properly addressed in the uranium marketplace, in international trade forums, or by Congress.

AMENDMENT TO S. 1004
URANIUM REVITALIZATION AND TAILINGS RECLAMATION ACT OF 1986

The electric utilities find both positive and negative aspects in the provisions included in the first four titles of the Amendment.

Title I - Uranium Revitalization

Electric utilities support the principle of free international trade for all commodities, including fuels. Trade restrictions and import fees or taxes are considered unacceptable on all equipment and energy forms, including petroleum, gas, coal and uranium, because they would result in a higher cost to electricity customers.

The future domestic demand for uranium, to fuel U.S. civilian nuclear plants now operating and those under construction, will increase to nearly 40 million pounds of U_3O_8 annually within the next ten years. Most predictions during the 1960s and early 1970s suggested that uranium would be in short supply, and the total domestic and foreign uranium ore reserves would be called upon to serve the growing civilian nuclear industry. However, since then, very large high grade uranium ore bodies have been discovered and brought into production in Canada and Australia. The cost of producing uranium from these ore bodies is significantly less than the average cost of producing uranium from many domestic mines. Any barriers that might be imposed to prevent these lower cost ore bodies from being called upon to meet domestic requirements would result in a higher price for uranium and a corresponding adverse impact on electricity customers.

Utilities would like to purchase domestic uranium as long as it is priced competitively. Domestic uranium reserves probably can be mined on a competitive basis to provide an average of over 10 million pounds of U_30_8 each year in the near term and approximately 16 million pounds of U_30_8 each year beginning in the mid 1990's. This is approximately 30 percent of the requirement for civilian nuclear plants in the U.S. Thus, a significant portion of the domestic uranium requirements is expected to be filled by domestic suppliers in an unconstrained market place. In fact, domestic suppliers have made sales to foreign customers on a truely competitive basis within the past year. An artificial trade barrier that ignores the market place and forces the development of premium priced reserves is undesirable and unnecessary. Under any circumstances, the proposed level of 50 percent domestic content is clearly unacceptable and larger than needed to assure a domestic uranium industry.

The language of Title I would impose a significant hardship upon utilities that hold existing contracts for uranium from domestic suppliers who in turn are using foreign uranium to satisfy these contracts. In fact, during the past two years, domestic uranium suppliers have imported nearly as much foreign uranium, to fill their existing domestic utility contracts, as has been imported by utilities. While the proposed Amendment grandfathers existing contracts that allow this feature, it requires utilities to go back to domestic uranium suppliers and purchase domestic origin uranium to compensate for foreign uranium delivered by these domestic suppliers. This is unfair. A more equitable approach to this situation would be to classify all uranium supplied under contracts with domestic uranium suppliers as domestic origin uranium. Congress also should prohibit domestic uranium suppliers from engaging in new contracts, after April 8, 1986, to purchase foreign uranium for delivery under existing contracts. Congress should require domestic suppliers to deliver domestic uranium under all existing uranium supply contracts for quantities not firmly committed for foreign uranium before April 8, 1986.

Again, while we are opposed to the principle embodied in Title I, if Congress does decide to establish restrictions, the provisions proposed must be modified. As an example, the present language would require the domestic content requirement to be imposed on a reactor by reactor basis. Some utilities own and operate a single nuclear plant while others own and operate several nuclear plants. The same result can be achieved with Title I by placing the domestic content requirement on the total annual usage of uranium by each utility rather than for each nuclear power reactor. Thus, the phrase "...any civilian nuclear power reactor..." and similar phases in Sec. 112 and 113 should be replaced with "...all civilian nuclear power reactors owned by each utility..."

Another aspect of Title I that is unacceptable is embodied in Sec. 112 (b)(2). This paragraph eliminates those aspects of grandfathering provided under Sec. 112(b)(1). Implementation of Sec. 112(b)(2) could result in a requirement, for some utilities, that all of their future uranium purchases must be 100 percent domestic origin, not the implied 50 percent domestic origin of this Title. For grandfathering to be meaningful, it must be applied on a year by year basis, instead of being on an aggregated basis over the period between 1988 and the year 2000. Also, such restrictions should be limited to new fuel loaded into all civilian nuclear power reactors owned by each utility.

In the first sentence of Sec. 112(d), references are made to uranium enrichment, which does not relate to the overall content of Sec. 112. The phrases, "...on the percentage of uranium enriched in the United States or enriched in another country..." and "...or enriched...",should be removed from that sentence.

Title II - Remedial Action Performed by the Owners or Licensee of Active Uranium Mills

The owners and licensees of the active uranium mill sites have the responsibility to stabilize the mill tailings in accordance with applicable Federal and state regulations, and to decommission the mills at the end of their useful lives. This responsibility is backed up with surety bonds or other financial arrangements, as a condition of having a license. New Federal regulations have been promulgated over the last decade that require expenditures beyond those anticipated when the milling programs were initiated. Title II of the proposed Amendment establishes a new cost sharing approach to resolve this environmental issue to satisfy both the original regulations and the new regulations. Before implementing such an approach, Congress should require the EPA and the NRC to justify the new regulations and order a change in the regulations if they are overly restrictive.

Utilities already have paid for mill tailings stabilization, under their prior uranium supply contracts, and should not be obligated for further payments. In addressing this issue, Congress should list hte specific sites that are to be covered by this Title. This listing should include the estimated quantities of mill tailings at each site, the present responsible owner of the site and, if applicable, the parent organization of the responsible owner. Within a period of 180 days after passage of the legislation, DOE or NRC should be required to establish a baseline by verifying the quantity of mill tailings that currently exists at each site.

Under the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA), the host state is required to pay 10 percent of the cost for the inactive mill tailings stabilization. Under a Congressionaly mandated approach, host states should be required to pay at least 10 percent of the cost for stabilization of the mill tailings at the active sites covered by this Title in order for a site to qualify for the owner to receive funds from the program.

Uranium suppliers should have the responsibility to perform the work to stabilize the mill tailings and be responsible for all costs above some fixed value established by Congress. Also, the responsible uranium suppliers should pay into the fund their full share, on the same time schedule as all others, that covers all existing mill tailings, not just tonnage associated with civilian sales of uranium.

Establishing a fixed value of $350 million for the Federal Government portion of the cost of mill tailings stabilization and having the $350 million provided from uranium enrichment revenues, as the Congressionally established full and complete value of all unrecouped prior Government costs of the uranium enrichment program, may be appropriate. Although electric utilities are convinced that the Department of Energy already has recovered all appropriate uranium enrichment program costs, the $350 million value may be a supportable compromise to resolve the various positions on this issue. The phrase used by DOE in its proposed criteria is "...prior unrecouped Government costs." This phrase should be included in the third sentence of Sec. 213(c)(2) in place of the word debt.

Domestic utilities should not be required to pay into the fund. However, if Congress does require domestic utilities to pay into the fund, the utility contributions must be a fixed amount that will not be increased in the future. It must also be made clear in the Amendment that such payments may be appropriately treated as current deductions for Federal income tax purposes.

Sec. 214.(a) provides a choice for the licensee of an active site to participate or not participate with a notification by January 1, 1989. This appears to be reasonable. However, Sec. 214.(b) provides an earlier date and an overlapping period with Sec. 214.(a). Sec. 214.(b) should be removed in its entirety.

As stated in Sec. 217(a), the owner or licensee of an active site shall be responsible for all costs associated with mill tailings generated after the effective date of this legislation. To assure that such funds will be accumulated and designated for this specific task, Congress should establish specific requirements for such funding.

If Congress requires a shared cost approach for mill tailings stabilization, it should do so on a basis that provides reimbursement for future expenses only, not for reclamation already undertaken. Reimbursement of expenses that were incurred prior to passage of the legislation should not be provided. Thus, Sec. 222 should be removed in its entirety.

Title III - Utility Services Contract

Title III provides Congressional approval of the Utility Services Enrichment Contracts and this is a desirable aspect of the Amendment. The individual Utility Services Enrichment Contracts, signed in good faith during 1984, are reasonable contracts for both DOE and its customers. These contracts recognize the needs of the customers, the reality of international competition, and the Congressional requirement for the enrichment program to be financially self supporting. Thus, we applaud Congressional validation of the Contracts to overcome the challenge in the courts by parties other than signatories of the Contracts.

However, Title III can only be supported in conjunction with the $350 million limit set in Title II Sec. 213(c). When the Utilities Services Enrichment Contracts were signed there was no indication of a large amount of unrecouped prior costs associated with the program that would be reflected in future enrichment prices. As we stated in our comments to DOE on the proposed Criteria, the validity of all DOE enrichment contracts may be called into question if DOE incorporates this major policy change of retrospectively assigning a high value for prior unrecouped Government costs. Title III, without the $350 million limit set in Sec. 213(c) will not satisfy electric utility concerns.

Title IV - Uranium Enrichment Reorganization and Commercialization

Domestic utilities generally support the approach of having uranium enrichment services provided by private companies on a competitive basis. The Federal Government has provided enrichment service to its customers on a timely basis over the past sixteen years. However, the management of the program has been criticized for its operating inefficencies, its inventory approach, its ambitious capacity expansion, and its contracting practices. The activities did not recognize the real needs of the customers in many respects. While DOE has achieved substantial improvement in the management of the enrichment program during the past three years, these steps have provided only a temporary reprieve for the program. The competitive world picture for enrichment services suggests the need for private, competitive management expertise in order for the U.S. to retain a strong presence in the enrichment business. Establishing a mixed private/Government Corporation, as the first step to eventually achieve competitive privatization for uranium enrichment in the U.S., appears to be an appropriate step.

Summary

The new Uranium Enrichment Services Criteria proposed by DOE on January 29, 1986 are reasonable in many regards, with the changes suggested in our comments of February 28, 1986, including the removal of Section 762.6 in its entirety.

Congressional action that establishes a fixed value of "debt" or unrecovered prior Government costs for the uranium enrichment program at a value of $350 million appears to be supportable, even though it can be argued convincingly that no prior unrecovered Government costs exist.

Validating the Utility Services Enrichment Contracts is a desirable Congressional action, only if achieved in conjunction with the establishment of a reasonable fixed value for prior unrecovered program costs.

Uranium enrichment services are now offered to civilian customers on a competitive basis, in an international market, by several suppliers. To permit the U.S. to continue as an effective participant in this competitive civilian market, it may be necessary for the program to be directed with commercial management expertise. Establishing a mixed private/Government Corporation, as the first step, appears to be appropriate.

Electric utilities oppose a domestic origin content requirement for uranium used in nuclear power reactors, and oppose any requirement that utilities and their customers pay additional charges to stabilize mill tailings, which are the responsibility of the mining industry.

Domestic utilities believe in the principle of free international trade and oppose trade restrictions on all energy resources, including uranium. However, if Congress requires a domestic origin content for uranium used in nuclear power reactors, such a limit should be well below 50 percent and should apply to new fuel loaded into all civilian nuclear power reactors owned by each utility, on a year-by-year basis, with existing contracts grandfathered. Uranium supplied by domestic uranium suppliers, under existing domestic contracts, should be treated as domestic origin uranium.

Electric utilities have paid already for the cost of stabilizing uranium mill tailings as a part of the price that they have paid for uranium over the years. If Congress requires an approach of cost sharing for the stabilization of uranium mill tailings the owners of the sites should be required to pay their full share over the same time period as other contributors.

* * * * * * * * * *

ATTACHMENT A

JOHN J. KEARNEY, Senior Vice President

EDISON ELECTRIC
INSTITUTE The association of electric companies

1111 19th Street, N.W.
Washington, D.C. 20036
Tel (202) 828-7400

February 28, 1986

U.S. Department of Energy
NE-34, Room A-172, GTN
Germantown, Maryland 20545

Comments on Proposed Uranium Enrichment Services Criteria (51FR3624)

Dear Sirs:

The Edison Electric Institute (EEI) offers for your consideration the enclosed comments on the proposed Uranium Enrichment Services Criteria, and requests an opportunity to speak at the public hearing on the proposed criteria on March 18-19, 1986.

EEI is the national association of investor-owned electric companies. Its members serve approximately 73 percent of all ultimate electricity customers in the nation. They operate 82 nuclear plants and currently have 20 additional units under construction. These nuclear utilities hold the majority of the domestic uranium enrichment contracts with the Department of Energy (DOE).

The U.S. enrichment services activity must be run on an efficient basis that recognizes the realities and the economics of a very competitive international market. It is appropriate to adjust the activity, by such steps as revising the criteria, to accommodate this market. Some sections of the proposed criteria provide flexibility needed in the program, and we support such modifications. However, some of the changes clearly are unacceptable and we urge DOE to review carefully our comments in this regard.

The proposed criteria represent significant and substantial changes over the existing criteria. Our specific comments are contained in Enclosures 1 and 2 to this letter. Enclosure 1 deals in detail with the issue of the recovery of alleged prior unrecovered Government costs. That aspect of the proposed criteria represents a major, fundamental change to the policy under which the enrichment activity operates. If adopted, it would raise serious questions concerning the validity of all existing and prior DOE contracts. Enclosure 2 provides section-by-section comments on the remainder of the issues covered by the proposed criteria.

Providing future payments to the U.S. Treasury, using sound and supportable accounting principles that are applied on a prospective basis, may be appropriate. Under any such approach, the cost of the program should be properly allocated among the entities and functions served: civilian, military, non-proliferation/national security, and any others. This would constitute a new policy and should be reviewed in detail by the Congress and the public before being adopted.

We appreciate this opportunity to submit our views on the proposed uranium enrichment services criteria. We would be glad to discuss them in greater detail at the public hearing.

Sincerely,

John J. Kearney

John J. Kearney

JJK:spt
Enclosures

Enclosure 1

EDISON ELECTRIC INSTITUTE
COMMENTS ON 10CFR PART 762
DISCUSSION OF THE PROPOSED
RECOVERY OF PRIOR UNRECOUPED GOVERNMENT COSTS

The new policy proposed in 10CFR Part 762, section 762.6, Recovery of prior unrecouped Government costs, is inappropriate and unacceptable. Including such a section in the new criteria would call into question the validity of all contracts for enrichment services offered by DOE because of the basic and significant change from the established policy in place when all existing and prior contracts were signed.

The electric utility industry does not accept DOE's premise that the enrichment program for civilian customers has accumulated unrecovered prior costs of $7,522 million or that future prices for civilian services should reflect any portion thereof to provide funds for "repayment" to the U.S. Treasury. It does appear to be appropriate to reduce the Government investment account by $4,065 million by writing off plant capacity that will not be used in current or future enrichment operations. This would result in a new value of $3,457 million for the Government investment. However, this should not be identified as an unrecovered prior cost to be paid to the Treasury. As specifically stated on page 8 of the letter dated August 10, 1984, from the General Accounting Office to Congressmen Dingell and Ottinger: "DOE is not required to have a formal plan for repaying the Treasury for the government's cost of providing uranium enrichment services, nor does the legislative history indicate that the

Congress intended the program to make specific repayments to the Treasury as is the case for some other programs."

The Edison Electric Institute strongly disagrees with the proposed new policy embodied in Section 762.6 for the following reasons:

1. Congress never authorized a debt account for the enrichment activity.

   Congress did not require or permit the program to carry forward unrecovered costs to be paid at some future date. Congress established the program to provide enrichment services for civilian customers as one step specifically taken to encourage the healthy development of the nuclear industry. When the Atomic Energy Commission proposed the original Uranium Enrichment Services Criteria in 1966, the criteria were reviewed in detail during five full days of hearings before the Joint Committee on Atomic Energy. Subsequent changes were made in the criteria during the period from 1970 to 1974, each time after several days of hearings before the Joint Committee.

   Congress recognized that a portion of the depreciation and interest on the facilities should be referred to in establishing the prices for civilian customers. However, in each and every year after 1969, Congress reviewed and approved the uranium enrichment services budget and did not indicate at any time that any amount of prior costs was being accumulated to be recovered at a later date. Congress directed the DOE to use the revenues received from the sale of enrichment services to its civilian customers to pay for operating expenses, research, and expansion of production capacity. Thus, customer revenues provided the funds to pay for increased Government investment.

At no time did Congress permit or require the uranium enrichment activity to establish a debt account that would suggest an ongoing repayment obligation. In other instances where the Government provides services, Congress specifically permitted the establishment of debt. This was permitted for the Tennessee Valley Authority, for public power districts, and for the Nuclear Waste Program. This clear policy of not permitting the enrichment activities to establish a debt account defines the intent of Congress that costs were not permitted to be carried forward and recovered at some future date.

2. Retrospective establishment of an amount for "prior unrecouped Government costs" is inappropriate.

No policy of carrying an amount for "prior unrecovered Government costs" was in effect during the first sixteen years of program operation, and no logic, accounting support, or other justification for this major policy change has been presented. This new concept does not reflect the understanding of the domestic civilian customers that have purchased enrichment services over the past sixteen years.

Prices for enrichment services were set each year by DOE and its predecessor organizations on the basis of recovery of appropriate Government costs over a reasonable period of time. The customers paid for the service on that basis. There was no indication that some amount of additional Government costs were to be recovered at a future date. For DOE suddenly to determine that such costs do exist, through making an evaluation on a retrospective basis, is inappropriate, unwarranted and unacceptable.

3. Civilian customers should not have to pay for military facilities which have fulfilled their primary purpose. The first separate financial report of the uranium enrichment activity was published as the Financial Statement for the Fiscal Year Ending June 30, 1971, with opening balances established as of June 30, 1970. The initial opening balance for the Government investment line item was approximately $1.5 billion, including physical plant, pre-produced inventory, and working capital. This investment had been made for military purposes and had been paid for in full prior to June 30, 1970. There was no indication that this initial Government investment was considered to be an unrecovered prior cost when the activity was initiated.

The initial value of the uranium enrichment physical plant as transferred to the uranium enrichment activities on June 30, 1970 was established at approximately $1 billion. This physical plant had been constructed at three locations over the period of the 1940s, 1950s, and 1960s, strictly for military production purposes. When the facilities were built, they were paid for by taxpayer dollars and were not justified as facilities to be used to provide enrichment services for civilian customers. However, they were productive facilities, and when the military needs decreased, they were made available to provide civilian enrichment services as one element of the Government effort to encourage the commercial use of nuclear energy. When the value of the physical plant was established for book purposes, Congress was well aware that the plant appropriately had been paid for by the taxpayers. Now, after the program has operated for over 16 years, it is inappropriate that a new policy should call for the payment a second time by electricity ratepayers.

The pre-produced inventory and the working capital were assigned an initial value of approximately $450 million as of June 30, 1970. The excess inventory was expected to be sold in the normal course of business.

4. Inventory costs incurred for purposes other than to serve civilian customers should not be charged to civilian customers.

Approximately $2 billion of the $3.5 billion that is referenced as the "prior unrecovered Government costs" represents an existing inventory of SWUs and uranium. These are saleable commodities, most of which were accumulated for the convenience of the Government, with only a minor portion needed to serve the civilian customers. Since much of this large inventory was not needed in the past and is not needed now to serve civilian customers, its costs, and the imputed interest thereon, should not be charged as a cost component to present-day civilian customers. These surplus saleable products should be placed in a strategic stockpile, or they should be sold. In any event, the surplus inventory and the accumulated imputed interest thereon should not be used as a component of the Government investment for calculating the imputed interest for the civilian enrichment activity.

While there is a need for some reasonable inventory to assure the timely delivery of product to customers, the inventory should be in the range of 120-180 days of projected demand. The pre-produced inventories, both before 1970 and since, have been much larger than that needed for a reasonable operating inventory to serve the civilian customers. Actually, in 1980 the finished inventory was greater than three times annual sales, equivalent to six to twelve times the level of a reasonable operating inventory. This large inventory was built for several purposes: to make anticipated future sales that did not materialize, to satisfy military needs, and to serve non-proliferation/ national security goals.

Even though the inventory was much larger than appropriate for normal commercial business inventory practices, the costs of the inventory and the imputed interest thereon were included in establishing the price for the civilian customers. This additional cost was not necessary to provide enrichment services to civilian customers and should not have been so assigned. A reasonable inventory for serving today's commercial customers is, at most, 5 million SWUs, compared to the actual inventory of over 15 million SWUs. In 1978, 1979 and 1980, the inventory exceeded 35 million SWUs -- clearly in excess of any reasonable operating inventory. In testimony before Congress in 1980 when the inventory was greater than 35 million SWUs, DOE indicated that the desired reasonable operating inventory was 9 million SWUs and that an additional 5 million SWUs should be set aside for non-proliferation purposes. This was the period when President Carter asked for large inventories for national security reasons. Thus, a substantial portion of the pre-produced SWUs and the uranium feed material inventories were established for reasons certainly not related to the civilian business. Yet the cost of and the imputed interest on those large inventories were assigned as a cost to civilian customers, and are now included as part of the alleged "prior unrecovered Government costs".

5. The approaches used by GAO and DOE to define "prior unrecovered Government costs" fail to recognize either Congressional intent or the history of the program.
The GAO has evaluated the uranium enrichment program in detail and has provided its views on what it considers to be the "Government's unrecovered enrichment costs". It has suggested a methodology that is simple and straightforward, but it does not recognize an appropriate allocation of the costs for purposes other than to serve civilian customers, and it does not recognize the actions of Congress in its annual budget review. Specifically, GAO defines the total government cost as the sum of: (1) the Government's initial investment in the program, (2) all appropriations, and (3) imputed interest. This simplistic methodology ignores or inappropriately dispenses with:

- Direction provided by the Joint Committee on Atomic Energy to the Atomic Energy Commission when the initial criteria were established and subsequently modified,

- Annual Congressional direction provided during the budget reviews each year in which Congress directed the Administration to use program revenues to offset operating expenses, perform research, and expand the production capacity,

- The fact that Congress has never authorized a debt account for the enrichment activity that would recognize any unrecovered government costs,

- The fact that the initial government investment set up on the books in 1970 was paid for in prior years by the Nation's taxpayers for military reasons,

- An appropriate allocation of costs that were incurred for military purposes,

- An appropriate allocation of costs that were incurred for non-proliferation/national security reasons, and,

- Program appropriation amounts that were not actually spent by the Administration in the enrichment activity.

The DOE appears to have taken a distinctly different approach to establish the newly defined "prior unrecovered Government costs". It apparently started with the line item in the Uranium Enrichment Activity Annual Report called "Government Investment" and redefined this line item as "prior unrecovered Government costs". In prior years, the

Government Investment was shown as the value of the total assets minus total liabilities. This value should not be equated to "prior unrecovered Government costs." Like GAO, DOE appears to improperly dispense with the first six items listed above under the GAO approach.

Appropriately, a reduction of $4,065 million is taken by DOE as a write-off of plant capacity that will not be used in current or future enrichment operations. After the write-off, the remaining physical plant, inventory, and working capital are assigned a value of $3,457 million. This may be an appropriate value of the net assets. However, this should not be viewed as "prior unrecovered Government costs" that are to be paid to the U.S. Treasury. Any obligation to make payments to the Treasury should be recognized as something quite different from the value of the net assets.

6. The proposed criteria may call into question the validity of all DOE enrichment contacts with civilian customers. Customers who are now, or who were previously, a party to contracts with DOE or its predecessors, including the Utility Services Enrichment Contract as well as earlier Requirements and Fixed Commitment contracts, did not enter into any of these contracts with the understanding that "In establishing prices for providing enrichment services for civilian customers" DOE would subsequently attempt to "establish reserves sufficient to return to the Treasury of

the United States, over a reasonable period of time, previously unrecouped and unrecovered costs associated with provision of enrichment services to civilian customers." In fact, it had always been represented that the prices being charged for enrichment services under each of these contracts were sufficient to recover "appropriate Government costs" as required by the criteria.

Any determination of future payment to the Treasury must be based on a reasonable, annual comparison of appropriate Government costs with civilian revenues collected over the years.

If the intent of the Congress is to have the enrichment activity start making payments to the Treasury in the future, then the Congress needs to specify this along with the basis upon which such payments should be determined. In such a case, the approach taken should be developed using sound and supportable accounting principles, and should consider the dynamics and economics of the international competitive market that exists today to ensure that DOE will not be priced out of the market by trying to collect an alleged accumulated debt.

If some amount of prior unrecovered Government costs is determined to exist, and payments are to be made to the U.S. Treasury, the approach taken to define the value of such costs should be determined by using sound and supportable accounting principles. A sound approach that would recognize the intent of prior Congresses may be to create, for each year, a Statement of Operations on the basis of Generally Accepted Accounting Principles, showing the military, national security, civilian customer, and any other elements in separate columns with supporting details. Such a statement would provide valuable guidance essential to an equitable allocation of cost. The Statement of Operations and supporting data should provide the principal facts required for calculation of a current value on an earnings basis, and the deficits, surpluses, etc., which might be relevant at any time.

After properly applying Generally Accepted Accounting Principles, and recognizing the concerns expressed above, the relevant appropriate costs for serving the civilian customers should be compared with the revenues from the civilian customers. Such a comparison may well lead to the conclusion that all costs that were incurred to serve civilian customers have been fully recovered.

Enclosure 2

EDISON ELECTRIC INSTITUTE
SPECIFIC COMMENTS PERTAINING TO THE
PROPOSED URANIUM ENRICHMENT SERVICES CRITERIA
DATED JANUARY 29, 1986 (10 CFR PART 762)

762.1 General

(a) Authority

Authority does not appear to exist for the proposed section 762.6, Recovery of prior unrecouped Government costs. "... Section 161(v) of the Atomic Energy Act of 1954, as amended, does not include a repayment requirement but instead requires DOE to recover the government's costs of providing enrichment services." August 10, 1984 letter from J. Dexter Peach, of the United States General Accounting Office, to Congressmen Dingell and Ottinger.

(b) Eligible customers.

Acceptable.

(c) Capacity limitations.

This provides DOE with the appropriate flexibility to contract for enrichment services.

(d) Sales limitations.

Acceptable.

(e) Revision of criteria.

Acceptable

762.2 Definitions.

The definitions provided under paragraphs (a), (b), (c), and (d) are acceptable as proposed. However, several additional definitions should be added to this section.

The term "charges" is introduced in Section 762.5 without definition. Clarification of its relationship to the terms "prices" and "costs" is requested.

The term "reserves" is introduced in Section 762.6 without definition. Clarification of its relationship to the terms "prices", "costs" and "charges" is requested.

The expression "unrecouped and unrecovered costs associated with provision of enrichment services to civilian customers" is found in Section 762.6 without appropriate definition. A complete definition for this expression is requested.

762.3 Enrichment of uranium of foreign origin.

The proposed requirement that a "domestic customer shall certify the country of origin of feed material delivered to DOE" is an unwarranted duplication of existing reporting requirements that customers already have to DOE through the EIA and therefore should be deleted.

The existing criteria specifically states that after 1983 "there shall be no restriction of the furnishing of feed material of foreign origin for the provision of enrichment services." The proposed criteria also should include a similar statement to the effect that "There shall be no restriction of the furnishing of feed material of foreign origin for the provision of enrichment services." Section III to the Supplementary Information section of the Federal Register notice of January 29, 1986, under the heading "Enrichment of Uranium of Foreign Origin", develops at great length the numerous significant negative implications of any import restrictions on foreign uranium, and the clear lack of any positive implications of such restrictions. The information presented in Section III is correct and is supportive of including the above suggested statement in the proposed criteria. There is clearly a need to retain such a statement, which in fact is present in the existing criteria.

762.4 Prices.

It clearly is in the collective best interests of the United States Government, the U.S. Treasury, the DOE and all of DOE's customers that DOE have the flexibility to price its enrichment services in a manner that permits it to respond to changing market conditions.

762.5 Costs.

This section states that "appropriate Government costs" will be "determined on a basis that includes the costs incurred in providing enrichment services to civilian customers". The term "includes" in the above statement should be replaced with the expression "includes only".

Paragraphs (a) through (e) in this section should clearly specify the above stated intent that only those portions of each cost component associated with providing enrichment services to civilian customers are to be included.

Particular attention is required with regard to imputed interest as described in Paragraph (e). The "imputed interest on investment in plant, working capital, the natural uranium contained in those inventories at the DOE enrichment plants needed to provide enrichment services, and the separative work costs of pre-produced inventories" should be limited to that required to provide enrichment services to DOE's civilian customers. Costs incurred by DOE for reasons of national security or national policy should not be charged to the civilian customers. This also applies to the imputed interest that may be applied by DOE to any of the direct costs.

Thus, paragraph (e) should be changed to read: (e) Imputed interest on investment in plant needed for civilian production, working capital, the natural uranium contained in those inventories at the DOE enrichment plants needed to provide civilian enrichment services, and the separative work costs of reasonable operating inventories to serve civilian customers.

762.6 Recovery of prior unrecouped Government costs.

The "unrecouped and unrecovered costs associated with provision of enrichment services to civilian customers" have not been clearly described nor substantiated.

In the sentence "The estimate of such costs will include costs attributable to plant capacity used to provide enrichment services for civilian customers, but will not necessarily include costs attributable to plant capacity or other investments not properly allocated to the Government's costs associated with providing enrichment services to civilian customers" the word "necessarily" should be deleted to carry out the intent as described in Section III to the Supplementary Information Section of the Federal Register notice of January 29, 1986, under the heading "Recovery of prior Government costs." However, this entire section is unacceptable and should be deleted. See Enclosure 1.

762.7 Non-discrimination.

It is understood and thought appropriate that DOE will continue to offer enrichment services to its customers on a non-discriminatory basis. However, the concept of "similarly-situated customers" should be clarified.

762.8 Amendment of contract.

This provision, providing for amendment of the contract without additional consideration, is a standard part of most commercial contracts and clearly is desirable.

762.9 Termination by DOE.

Termination under paragraph (a) "upon reasonable notice at such time as commercial enrichment services are provided by another domestic source" should be available, with or without cost, to both DOE and the customer on the same basis.

Under paragraph (b) the expression "or becomes involved in bankruptcy proceedings" should be deleted. Involvement in bankruptcy proceedings does not in and of itself imply that the customer cannot meet its obligations under a contract.

762.10 Termination by customer.

As noted in comments to Section 762.9, termination by the customer should be available "upon reasonable notice at such time as commercial enrichment services are provided by another domestic source."

It is entirely appropriate that termination provisions, providing for termination by the customer, be included in any contract for enrichment services with DOE. It is also appropriate that "reasonable and appropriate charges for termination" be fairly negotiated.

762.11 Quantities of feed and product material.

This section provides DOE with the flexibility to operate its facilities in a manner that will enable it to best optimize its overall production costs. Proper use of such flexibilities is encouraged.

762.12 Customer's option to acquire tails materials.

Given DOE's ability to refeed tails material at its gaseous diffusion plants and the potential for AVLIS operation before the end of the century, the U-235 assay of the tails material that is delivered to the customer is important. Therefore the sentence "The U-235 assay of the tails material delivered to the customer will be within the sole discretion of DOE" should be deleted. The customer should be offered tails material at its transaction tails.

762.13 Responsibility for materials meeting specifications.

The customer should be protected through product specifications that address the isotopic composition of the product, particularly the Uranium-236 content. Appropriate terms and conditions for final acceptance of the product under such specifications should be provided within the contract.

762.14 Other terms.

This section provides both DOE and the customer with appropriate flexibility for negotiating an acceptable contract.

762.15 Prior contracts.

As discussed with respect to Section 762.6, customers who are now or who previously were a party to contracts with DOE or its predecessors, including the Utility Services Enrichment Contract as well as earlier Requirements and Fixed Commitment contracts, did not enter into any of these contracts with the understanding that "In establishing prices for providing enrichment services for civilian customers; DOE would subsequently attempt to "establish reserves sufficient to return to the Treasury of the United States, over a reasonable period of time, previously unrecouped and unrecovered costs associated with provisions of enrichment services to civilian customers." In fact, it always has been represented that the prices being charged for enrichment services under each of these contracts were sufficient to recover "appropriate Government costs" as required by the criteria. Consequently, it appears that if the final version of the proposed criteria includes Section 762.6, there may be sufficient basis for a legal finding that none of DOE's contracts, present or past, are in fact valid. It is not clear at this time whether these potentially invalid contracts could be amended in a mutually satisfactory manner to conform to the proposed criteria.

SUMMARY STATEMENT

OF

NATIONAL TAXPAYERS UNION

The National Taxpayers Union is concerned with the $7 billion debt that is owed the U.S. Treasury from the uranium enrichment program. In this era of massive budget deficits and a two trillion dollar national debt, it is unconscionable not to make every attempt to recover those costs.

The National Taxpayers Union is opposed to the Department of Energy's (DOE) proposed enrichment criteria because it:

1. Violates Section 161v. of the Atomic Energy Act which states that the government's enrichment costs must be recovered.

The costs that the DOE is attempting not to recover are:

* $3.5 billion related to construction of the abandoned Gaseous Centrifuge Enrichment Plant (GCEP) facility
* $1.2 billion of improvements to the Gaseous Diffusion Plant (GDP) which was for the benefit of DOE's utility customers
* Unreasonably low interest rates which will not recoup the government's cost of borrowing money

2. Provides no limits on DOE's discretion in managing this program.

3. Establishes no means of determining reasonable prices for government services except through secret negotiations with individual utilities.

Statement of

JILL LANCELOT, DIRECTOR OF CONGRESSIONAL AFFAIRS
NATIONAL TAXPAYERS UNION

before the

SUBCOMMITTEE ON ENERGY CONSERVATION AND POWER
HOUSE COMMITTEE ON ENERGY AND COMMERCE

on

THE U.S. URANIUM ENRICHMENT SERVICES PROGRAM

February 19, 1986

Mr. Chairman, my name is Jill Lancelot. I am Director of Congressional Affairs for the National Taxpayers Union. I am very pleased to be here this afternoon to share our views on the uranium enrichment program. The National Taxpayers Union is a non-profit, public interest organization dedicated to eliminating waste in government spending.

Mr. Chairman, I don't believe the facts of this problem are in dispute. Briefly, the Department of Energy (DOE) is no longer the sole supplier of enriched uranium to the free world. In the past 10 years, DOE's share of the enrichment market has been eroded by numerous factors, including the failure of the commercial nuclear market to expand as projected, aggressive foreign competition, and the formation of an active secondary market. Unfortunately, while DOE's market share and revenues were shrinking, its construction program was booming, creating costs which its sales have not recovered and which remain today, unpaid. Now DOE proposes to wave a magic wand and wish this debt away.

Mr. Chairman, we cannot support DOE's proposed changes to the enrichment criteria. Not only do we believe the criteria are illegal, but the policy implications are simply an anathema in a period of massive budget deficits and a multi-trillion dollar national debt. We are not here to assess blame retroactively or simply to bemoan the United States' receding prominance in the market.

However, Mr. Chairman, the National Taxpayers Union is here today to insist that this Committee and Congress recognize that the current deficits and national debt which have mortgaged our children well into the future are the result of hundreds of programs like the one before you today. This program alone represents the equivalent of 2% of the budget deficit. Congress cannot allow DOE to "forgive" $4 billion of a $7 billion debt which is owed to the taxpayer. To do so would only perpetuate the same cavalier treatment toward actual government expenditures, debt and obligations that have resulted in today's crisis.

The DOE proposal simply provides the nuclear power industry -- a large portion of which is foreign -- with an unconscionable subsidy. There is absolutely no reason for the individual taxpayer to assume the debt of a fully capable, mature industry. It is not the function of government to underwrite an industry's business expenses.

In addition, the manner in which DOE has chosen to justify its non-payment of some portion of the debt could have an extremely unfortunate effect on the method in which other valuable government assets (such as the Bonneville Power Administration) are sold to private interests. Clearly, valuation at average "historical costs" does not represent adequately the assets' value. We agree with OMB that the standard to be used in selling and transferring government assets to the private sector is "fair market value." This applies to inventories of uranium, as well as to power marketing administrations. Since such sales are not for the purpose of losing the government money, the valuation should begin, not end, with original cost, plus interest.

We are pleased to note the Congress' own accountants, the General Accounting Office (GAO), has already sounded the warning. We agree with GAO and the U.S. District Court for the District of Colorado, both of which found that DOE's contract, based on the newly proposed criteria, is illegal for failure to recover the Government's costs, as required by the Atomic Energy Act, Section 161v. The legislative history on that section makes it clear that the phrase, "recovery of government costs over a reasonable period of time" was not only to preclude the government from making a profit on the enrichment program, but equally, to require the nuclear industry to pay the full costs of the commercial enrichment program. In spite of this requirement, DOE has made $1.2 billion of the commercial improvement program and $3.5 billion of the Gaseous Centrifuge Enrichment Plant (GCEP) construction costs evaporate. In addition, by assigning a below market interest rate to the portion of the debt it has acknowledged, it, in essence, adds to the amount of Treasury funds which will not be recovered.

While the full cost recovery requirement may be inconvenient for DOE under the current circumstances, DOE is legally powerless to unilaterally change the language of the Act. If it finds the full cost requirement too burdensome, it must ask for, justify and receive legislative approval in the form of an amendment to the Act prior to performing its vanishing act on these costs. Then, in the open and fair congressional forum, we, and other interested parties, can debate the policy merits of DOE's proposed action. However, it is absurd to pretend that DOE's proposed changes to its own regulations will allow it to avoid a clear statutory mandate. Absent a prior legislative approval, DOE's proposed criteria amount to little more than informing Congress of its intent to commit an illegal act.

We understand that DOE does not agree with GAO as to the amount of the debt that is owed to the Treasury, and that the $3.457 billion figure contained in the proposed criteria was arrived at through "negotiations" with OMB. Aside from the fact that the statute does not allow the amount of the repayment to be "negotiated", DOE's position is in conflict with tenets of responsible accounting. As we understand DOE's position, DOE argues that, by reinvesting the revenues it has collected over the 15 years of the commercial program into GCEP and the diffusion plants improvement and upgrade program (Cascade Improvement and Cascade Upgrade Projects or CIP/CUP) it has repaid the Treasury. Even if this alleged "repayment" had not been made in the form of valueless assets, that is, had the GCEP facility and the CIP/CUP program resulted in useful facilities, the Treasury would still have to be repaid for the amounts loaned to the Department to conduct these programs.

Using DOE's logic the following situation could occur. I, Jill Lancelot, could get a bank mortgage to buy a rental housing unit. (This mortgage represents the original transfer of the Gaseous Diffusion Plants (GDP) and related inventories of the commercial enrichment program.) However, instead of using the rent to repay the bank, I invest the rent in home improvements. (The home improvements in this analogy are GCEP and CIP/CUP.) I now inform the bank (Treasury and Congress) that, not only is the loan repaid, but if the bank insists on calling the mortgage due, I won't be able to rent the house at a market price, and I'll never be able to repay the loan.

Not only is this argument non-persuasive from the bank's point of view, but DOE has not produced any information documenting its projections of massive sales losses to support its claimed inability to repay the Treasury in spite of the well documented foreign enrichment capacity limitations.

This brings us to the situation in which our nuclear utilities find themselves. DOE's pricing formula prior to 1984, included charges for depreciation of the GDPs, for the GCEP and CIP/CUP construction program, and for imputed interest. In good faith, therefore, the utilities believe they have paid what is owed, and dispute our characterization of this program as a subsidy.

We might have agreed with the utilities if only DOE had done what it said it was going to do with the customers' revenues. But it did not. DOE apparently used the money that it was charging its customers for depreciation and interest, not repaying the Treasury loan as statutorily required, but rather, investing in the two construction programs of GCEP and CIP/CUP. In addition, DOE spent appropriated funds coming directly from the Treasury for these construction programs. (Both of these programs were undertaken for the sole benefit of DOE's utility customers.) Had it not done so, the investment in the construction program would have been much smaller and the Treasury would have been repaid. This is, in large part, why DOE still owes the Treasury over $7 billion and why it is fair to ask the nuclear utility industry to pay for these abandoned plants.

Incidentally we must note that, of the $12 billion worth of nuclear power plants which were abandoned over the past 10 years, not one utility has volunteered to forego recouping its costs from the ratepayers. Indeed, several utilities have won the right to earn a profit on these abandoned investments. We point this out because the situation here is quite similar.

DOE's past practices of repayment is relevant here as this Committee reviews DOE's proposed criteria -- which eliminate the provision for a fixed price or pricing mechanism for enrichment services. DOE says, in essence, 'Trust us, we promise to repay our loan only if we have sufficient flexibility.' We fear that flexibility in this context means little more than freedom from statutory requirement and effective oversight. Our fear arises from DOE's statement that "compliance with the statutory mandate can be judged only by looking at the overall performances of DOE's enrichment activities over a period of time, taking into account the many objectives of the AEA (Atomic Energy Act)."

What does this mean? This means that 10 years from now, DOE will stand before this Committee apologizing for not being a better prognosticator; promising to run the program on a more businesslike basis; and asking to be excused from repaying the even larger debt which has now accrued — all because one of the "many objectives of the AEA" is to promote nuclear power. This circuitous argument must not prevail. Congress must reject DOE's logic and its "trust us" offer. DOE did not repay its debts in the past, despite explicit statutory and regultory language requiring it to do so. The proposed criteria would allow DOE to avoid an explicit regulatory requirement which DOE would then argue, as it does today, that Congress has implicitly approved DOE's avoidance of the full cost recovery requirement.

Clearly, there are many competing interests and complex problems involved in the enrichment program; and we acknowledge that the environment has changed substantially. We do not believe, however, that the solution to this problem lies in forcing a government agency to act lawlessly or to construct an elaborate charade, which, upon slight review, is revealed to be the travesty it is. We believe that the crisis which causes DOE to act in the manner we described requires immediate Congressional attention and assistance to construct a new statutory regime for the enrichment program which will encompass a review of the past, realistic projections of the future and balancing of the many interests involved. We believe that such a thorough review of this program will require that the thorny issue of privitization be resurrected and carefully evaluated. It may be that that should be the goal of a restructured enrichment program. Throughout this process, the Treasury and the individual taxpayers' interests must be protected.

qq:37

Testimony on Behalf of the National Taxpayer's Union
on the
Department of Energy's Proposed
Uranium Enrichment Criteria
March 18, 1986

My name is Jeannine Hull. I am appearing today on behalf of the National Taxpayers Union, a non-profit public interest organization dedicated to eliminating waste in government spending.

In DOE's proposed new enrichment criteria, as well as in the President's Budget, DOE proposes to "write-off" $4.0 billion of the taxpayers' investment in DOE's enrichment enterprise. Moreover, DOE's proposes revised criteria calling for DOE only to recover "appropriate" costs, which may allow DOE at some future point to call for even greater write-offs. Indeed, the agency's enrichment officials advocated a write-off to only about $700 to $800 million as of a few months ago.

The bulk of the written comments received by DOE on this central issue in the proposed criteria sharply disagree with the position taken by DOE. Most of the utilities oppose it for requiring DOE customers to pay "too much." Duke Power, for example, appears to dispute any interest charges. Edison Electric Institute seems to argue that there is no enrichment debt at all, so that none of the unrecovered investment should be repaid. In contrast, most public officials and the NTU oppose it for requiring DOE's customers to pay too little. Almost all seem to agree that DOE's rulemaking position is unsupported and that DOE should reissue a notice of proposed rulemaking accompanied by sufficient information not only to support the agency's proposal but also to give interested parties adequate knowledge of the basis and effects of the agency's proposed action. On behalf of the Taxpayers' Union, I will spell out our basic position below.

Section 161v. of the Atomic Energy Act provides that DOE's enrichment services shall be priced on the basis of recovery of all associated costs. Under the legislative history and the original enrichment criteria, these costs include interest imputed on the taxpayer's investment, depreciation of plant and equipment, costs of inventory and all operating expenses. Although we understand that these costs were used to compute the price DOE charged its customers in the past, the resulting revenue was re-invested by DOE into various enrichment improvement and construction programs and the overall "cost" of the enrichment enterprise has thus been allowed to accumulate. In addition, the program has received substantial amounts of direct appropriations from the Treasury. The General Accounting Office and the Administration estimate that the unrecovered enrichment debt is about $7.5 billion.

The $7.5 billion figure is large but it is not surprising given the agency's failure to make any payback, let alone a full payback. The situation is similar to that faced by the owner of a nuclear power plant that cannot recover any of the costs of the plant until the initiation of operation. The cost of the plant goes up because of interest on the capital. The same thing happens to a homeowner with a mortgage. Either you pay the interest on your mortgage to the bank as you go along, or you must pay the compound interest, in a big balloon payment at the end. What we have with DOE's enrichment enterprise is something like the latter situation, but with a request by DOE that the bank forget about any repayment of more than half the amount due. Equally troublesome, there is no certainty that more forgiveness will not be requested at some future point.

The General Accounting Office has carefully explained that Section 161v. of the Atomic Energy Act requires full cost recovery. On the basis of GAO's legal analysis, any "write-off" is unlawful; any DOE criteria purporting to authorize a "write-off" are unlawful; and contracts purporting to embody such a "write-off" are unlawful and beyond the agency's power. DOE cannot circumvent the statute by adopting criteria which are contrary to the statute.

The nuclear utility industry has admitted that DOE prices should be based on full cost recovery. For example, in testiimony before Congress in 1978, Mr. R.W. Bostian of Duke Power testified on behalf of Edison Electric Institute as follows:

> "The amended subsection 161v. of the Atomic Energy Act of 1954 provides a basic criterion for setting the price for uranium enrichment on fixed commitment contracts to assure a full recovery of all government costs over a reasonable period of time. Such a criterion requires the government to establish prices that prevent a direct subsidy to the nuclear industry.[1]

In short, our nuclear utilities have previously insisted that they were statutorily bound to pay the program's full costs. This is partly because they have previously been anxious to dispel lingering charges that the enrichment program provided subsidies to them.

They now argue, however, that the capacity which DOE seeks to "write-off" is no longer needed; that they should not pay for it; and that taxpayers must foot the bill in order for the enrichment program to be competitive. This not only is in direct contrast to their earlier admission that full cost recovery is required, but also overlooks the important role played by the utilities in creating the costs which they now want taxpayers to bear. More specifically, the utilities ignore the fact that they demanded the government to provide the enrichment capacity in question -- even if that capacity might not be required. For example, Mr. Kuhns of General Public Utilities, speaking on behalf of EEI in 1974, declared that

---

1/ Uranium Enrichment Policy, Hearing before the Energy Res. & Dev. Subcomm. of the Senate Energy and Natural Resources Comm., 95th Cong., 2d Sess. at 75 (Feb. 9, 1978) (emphasis added).

> "The overriding concern of the electric utility industry is that no gap in the supply of enrichment service should be allowed to occur. In order to assure continuity of enrichment services, we believe ample allowance for contingencies must be made.
>
> With increasing national dependence on nuclear power, the economic penalties that would be imposed by a shortfall of enrichment capability far exceed the costs that would be associated with a temporary oversupply. . ."[2]

Mr. Kuhns endorsed DOE's $1.5 billion Cascade Improvement and Cascade Upgrade program as well as government construction of additional enrichment capacity if private industry were unwilling or unable to enter the business.[3]

Similarly, in 1978, EEI, again through Mr. Bostian of Duke Power, testified that

> "the need to proceed rapidly with the planned Portsmouth [gas centrifuge] plant is urgent and cannot be overemphasized."[4]

Mr. Bostian even objected to a GAO recommendation that decisions on investment in additional enrichment plant be postponed.[5] Mr. Kearney of EEI reiterated this objection stating that

---

[2] Future Structure of the Uranium Enrichment Industry, Hearings before the Joint Comm. on Atomic Energy, 93d Cong., 2d Sess. 175 (1974) (accompanied by John J. Kearney and others) (emphasis added).

[3] *Id*. at 175-77. These multi-billion dollar EEI-endorsed programs -- which were undertaken to satisfy civilian needs -- were financed largely by the rollover of enrichment revenues into further investments rather than in repayment of principal and interest to the Treasury.

[4] 1978 Hearings at 80.

> "[a]ssurance of a timely and reliable national uranium enrichment capability is needed to permit utilities to rely on present and future nuclear programs.[6]

Nor are these utility positions artifacts of the 1970's. As recently as March 1, 1984, EEI representatives George Rifakis and Loring Mills advocated proceeding with GCEP (albeit at a reduced level) and emphasized DOE's responsibility to recover its full costs from DOE customers.[7] I have copies of all these documents which I am submitting herewith for the record.

In short, the nuclear utility industry encouraged, requested, and indeed demanded what is now recognized as the government's over-expansion in plant and equipment. The nuclear utility industry expressly represented that the risk of over-expansion was less than the risk of insufficient capacity. The industry in essence insisted that DOE guarantee that the industry's maximum needs would be met. Utilities took this position knowing that the statute required them to bear the costs of their request. But now some of these utilities want out of the deal that they demanded.

---

[5] 1978 Hearings at 87.

[6] 1978 Hearings at 444.

[7] Uranium Enrichment Policy, Hearings before the Energy Cons. & Power Subcomm. of the House Energy & Commerce Comm., 98th Cong., 2d Sess. pp. 315-326 (1983-84).

On behalf of the Nation's taxpayers, we object. The utilities have no case in either law or equity to demand that DOE "write-off" any portion of the $7.5 billion investment which they themselves requested and agreed to pay for.

We understand that Duke, and other utilities through EEI spokesmen, threaten to import enrichment services unless DOE and the taxpayers give them a huge write-off and make other concessions. The utilities' threat is principally bluff. U.S. utilities in the past have testified that foreign enrichment facilities are constructed in the national self-interest of foreign governments.8/ Our utilities have been reluctant -- and wisely so -- to rely on foreign enrichers on a long-term basis. In any event, available data suggest that significant foreign capacity will not be available in the early 1990's.9/ Thus, U.S. nuclear utilities could not go abroad to a significant extent even if they wanted to do so, with the possible exception of relying on the Russians for enrichment services. But we do not understand their threat to extend quite that far.

8/ 1978 Hearings at 78.

9/ According to Congressional Budget Office figures (CBO, U.S. Uranium Enrichment: Options for a Competitive Program pp. 14, 15 & 17), European excess capacity will dwindle to about two million SWUs by 1990 but there will be 6 million SWUs of uncommitted demand.

It may be that adjustments in DOE policies and statutes are required. Indeed, we have testified before Congress that many are. However, the adjustments proposed by DOE in its revised criteria are largely matters for Congress to decide. Moreover, we oppose the proposed criteria because adoption of their broad and ambiguous terms would eliminate any effective Congressional, customer or taxpayer oversight over a program equivalent of 2% of the national deficit.

A dominant theme in the comments received from the agency's customers, Members of Congress, brokers and ourselves is the lack of information provided in support of DOE's proposal. This lack of information results in a lack of trust in DOE's fairness, judgment and future intentions. Until DOE can produce a record where distrust itself is not the dominant theme, it has no basis for changing the existing criteria, or attempting to change the law.

We are prepared to work with DOE, Congress and nuclear utilities and other interested parties to develop a concensus on restructuring the enrichment program so that it achieves the goals established for it in the Atomic Energy Act. DOE must provide the documentation required to begin these very necessary discussions.

We urge DOE to abondon its current attempt to bluff its way through the legal challenges to its contracting authority and to begin the process required for effecting long term positive change.

SOUTHWEST RESEARCH AND INFORMATION CENTER

April 30, 1986

Senator Pete V. Domenici
United States Senate
Washington, DC 20005

Re: SRIC Statement Regarding the Proposed "Uranium Revitalization and Tailings Reclamation Act of 1986"

Dear Senator Domenici:

Southwest Research and Information Center ("SRIC") appreciates the opportunity to comment on the proposed "Uranium Revitalization and Tailings Reclamation Act of 1986." We are especially grateful to your staff for providing an additional week to allow us to review the proposed legislation in detail. Our comments are limited to the reclamation financing aspects of the bill.

We certainly agree with the view, embodied partially in Sec. 2(a)(10) of the bill, that reclamation, decommissioning, and remedial action at active uranium mill tailings sites must to be carried out as soon as possible and in as equitable a manner as possible. However, we continue to resist the idea that the ratepaying and taxpaying public should assume the costs of cleanup that are rightfully borne by the companies that generated the wastes. For that reason, we must oppose this new financing scheme, just as we opposed the same concept that was incorporated in the proposed Uranium Mill Tailings Financing Act of 1985.

We are encouraged that you have seen fit to increase the contributions of mill owners and operators from the 15 percent of the 1985 bill to the roughly 30 percent in the new bill. We remain concerned, however, that this is a 70-percent reduction in the current legal obligations of the owners/operators (see, for example, Sec. 161(x) of the Atomic Energy Act of 1954, as amended by the Uranium Mill Tailings Radiation Control Act of 1978) will be used by other failing industries to justify requests for public financial assistance to clean up hazardous wastes. As we stated in our testimony on the 1985 bill, we cannot endorse a public financing concept for uranium wastes, or for any other industrial wastes, until Congress has established a clear policy for aiding economically distressed industries.

Similarly, the current federal budget deficit and the continued erosion of state revenues call into question the fiscal soundness of enacting a new government program that hits ratepayers and taxpayers twice: first, through the federal and utility contributions to the cleanup fund, and second through the state contributions. The new bill, like the 1985 version, sends the wrong signal to our low- and middle-income citizens whose tax and rate burdens are already high.

P.O. BOX 4524 ALBUQUERQUE NEW MEXICO 87106 505 - 262-1862

We are particularly opposed to the state share in the proposed bill. You are as keenly aware as ourselves and other New Mexico residents of the current budget crisis that has hit our state. We cannot imagine the New Mexico Legislature appropriating more than $42 million over a five-year period to help pay for the cost of cleaning up tailings. Additionally, we do not believe that the provisions of the bill (Sec. 215(d)(1) and (2)(A)) that would reimburse the states for their contributions are sufficient enticements to ensure state participation. Many of the western states simply cannot afford these initial large payments, even if those payments were returned within six years. Several states, most notably Colorado, have had difficulty raising their 10-percent contributions to pay for the costs of cleaning up inactive tailing sites; in some cases, legislatures have had to ask local governments to share in the costs of cleaning up local piles.

The costs to the states as a result of the new bill indeed would be large. We have calculated those costs, based on the assumptions that all mill owners participate in the program and that all states contribute 50 cents per ton of dry tailings (see Sec. 213(a)(1)). The table below shows those costs, and is based on tailings volumes contained in a list we compiled last year and which is attached to this letter.

COSTS TO THE STATES
UNDER SECTION 213 OF THE PROPOSED
URANIUM REVITALIZATION ACT

	Tailings (tons)	Total State Share (x $0.50 per ton)	Per-Year Costs (1990-1994)
Colorado	14,000,000	$ 7,000,000	$ 1,400,000
New Mexico	85,900,000	42,950,000	8,590,000
S. Dakota	3,200,000	1,600,000	320,000
Texas	13,400,000	6,700,000	1,340,000
Utah	13,900,000	6,950,000	1,390,000
Washington	5,203,000	2,601,500	520,300
Wyoming	61,100,000	30,550,000	6,110,000
TOTALS	196,703,000	$ 98,351,500	$ 19,670,300

As the table shows, the same Western states that are dependent upon falling oil and natural gas revenues would be expected to come up with these large sums. New Mexico and Wyoming, two low-income states which have been particularly hard-hit by the drop in world oil prices, would be asked to contribute the largest amounts because they host the largest volumes of tailings. We do not believe that the past income-tax and severance-tax revenues that accrued to New Mexico as a result of uranium production were sufficient to warrant this tremendous expenditure of cash, not even on a temporary basis. Additionally, New Mexico and other uranium-producing states are still "paying" their shares of cleanup in terms of the losses of water resources and lands permanently contaminated by uranium wastes and expenditures for agency personnel to monitor and regulate existing operations.

We also oppose the new bill because of its apparent attempt to transfer to the Department of Energy the standards-setting responsibilities of the U.S. Environmental Protection Agency and the licensing and regulatory authorities of the U.S. Nuclear Regulatory Commission that are currently embodied in Title II of UMTRCA. Sec. 222 provides that the Secretary of Energy "shall [emphasis added] determine, adopt and issue regulations providing for the reclamation, decommissioning and other remedial action whether work performed at a site prior to the effective date of this Act was accomplished in order to comply with the standards under Section 211..." This provision may be interpreted to allow DOE to establish stabilization standards that contravene and replace the standards and regulations set by EPA and NRC. Legal confusion -- and certainly much litigation -- would result over the question of which federal agency would have authority to regulate the disposal of tailings at sites whose owners have entered the financing program. Our view is that NRC is the authorized and appropriate federal agency for licensing and regulating the disposal of tailings at active mills.

We interpret Sec. 216(a) to establish a $5-per-ton reimbursement ceiling to prevent operators from arbitrarily inflating cleaning up costs in order to receive larger reimbursement sums. We support that intent, but we question whether the ceiling will have an opposite effect: to arbitrarily lower costs such that cleanup actions are performed sloppily and with little regard to the appropriate standards.

In general, there are several areas of the new bill that are confusing and poorly written. For instance, subsections (i) and (ii) of Sec. 213(b)(1)(B) could be consolidated under subsection (B) to say simply that equal payments of 50 cents per ton of tailings will be made on Janary 31, 1992, and January 31, 1993. Sec. 215(a) has so many clauses and conditional statements that it is difficult even for attorneys to decipher the intent. We believe, however, that we understand the meaning of the provision: that an operator may be reimbursed for the lower of either (a) one-third of the actual cost of cleanup minus the operator's contribution to the fund, or (b) one-third of $5 per ton times the number of dry tons at the operator's site minus the operator's contribution.

While we have other more detailed comments, we will reserve those for a later date when movement on the proposed legislation occurs. Our alternative position to the one represented by your new bill and by the 1985 proposed legislation remains the same as last year: SRIC supports federal financial assistance for reclamation and stabilization for those active uranium mill tailings piles whose wastes were generated when the operator was conducting business solely with the U.S. Government. Our support for a "commingled tailings" bill extends only to those 13 or 14 sites which contain commingled tailings; it does not extend to sites whose wastes were generated solely under commercial contracts.

Again, we want to thank you for the opportunity to comment. We will continue to work closely with your staff to realize our common goals of protecting the public health and environment while putting people back to work cleaning up wastes like uranium mill tailings.

Sincerely,

Wm. Paul Robinson

Chris Shuey, Coordinator
Puerco River Educ. Project

Wm. Paul Robinson
SRIC Research Director

Hollis Whitson, Esq.
SRIC Attorney

Attachment

cc:Senator Jeff Bingaman
Congressman Bill Richardson

U.S. Uranium Mills: Status, Tailings Volumes, and Financial Data[1]

Mill Owner/Location	Parent Company	Mill Status (thru June 85)	Tailings Volumes Federal Contracts	Commercial Contracts	Total	Surety Amount Collected (millions) (GAO est.)	Per Ton Surety	DOE Estimated Cost of Federal Cleanup Program (millions of $)	DOE Cost Per Ton	Surety Type	Surety Issued To	Scope of Surety
			(millions of metric tons)									
LICENSED BY NRC:												
American Nuclear Corp./ Gas Hills, Wyo.	Wholly owned	IS-4/84	2.1	3.3	5.4	$ 3.5	$ 0.65	$ 150	$ 27.78	CD,LC TB	Wyoming	Dec.&Rec.
Atlas Minerals/ Moab, Ut.	Wholly owned	IS-4/84	6.0	3.6	9.6	3.2	0.33	255	26.56	CG	Utah	Dec.&Rec.
Bear Creek-Rocky Mtn. Energy/Powder River, Wyo.	Union Pacific Corp.	Operating		3.7	3.7	2.6	0.70	100	27.03	CG	Wyoming	Dec.&Rec.
Exxon Minerals/Converse County, Wyo.	Exxon Corp.	D&R-6/84		10.0	10.0	10.9-a	1.09	200	20.00	LC	Wyoming	Dec.&Rec.
Minerals Expl. Co./ Red Desert, Wyo.	Union Oil Co.	IS-11/81		3.5	3.5	3.5	1.00	75	21.43	CG	Wyoming	Dec.&Rec.
Pathfinder Mines/ Gas Hills, Wyo.	Cogema (French)	SS-4/85	2.7	8.0	10.7	29.1-a	2.72	237	22.15	CG,LC	Wyoming NRC	Dec.&Rec.
Pathfinder Mines/ Shirley Basin, Wyo.	Cogema (French)	Operating		6.2	6.2	57.5-a	9.27	125	20.16	CG,LC	Wyoming NRC	Dec.&Rec.
Petrotomics/Shirley Basin, Wyo.	Texaco (Getty Oil)	IS-5/85	0.7	5.2	5.9	3.4-a	0.58	137	23.22	CG,LC	Wyoming	Dec.&Rec.
Plateau Resources/ Hanksville, Ut.	Consumers Power Co.	IS-8/82		0.2	0.2	0.5	2.50	No DOE estimate available		LC	NRC	Dec.&Rec.
Rio Algom Corp./ La Sal, Ut.	Rio Algom Ltd. (Canada)	Operating		2.7	2.7	3.2-a	1.19	50	18.52	EA	Utah	Dec.&Rec.
Silver King Mines/ Wyo.	Tennessee Valley Authority	NB		0.0	0.0	no tailings						
TVA/Edgemont, S.D.	Tennessee Valley Authority	D&R-4/83	1.6	1.6	3.2	27.4	8.56	No DOE estimate available		none	none	
Umetco Minerals/ Blanding, Ut.	Union Carbide Corp.	SS-until 10/85		1.4	1.4	2.0	1.43	12	8.57	CG	Utah	Dec.&Rec.
Umetco Minerals/ Gas Hills, Wyo.	Union Carbide Corp.	IS-11/84	2.1	6.6	8.7	5.9	0.68	200	22.99	SB	Wyoming	Dec.&Rec.
Western Nuclear/ Jeffrey City, Wyo.	Phelps Dodge Corp.	IS-6/81	3.4	3.6	7.0	10.6	1.51	192	27.43	SB	Wyoming	Dec.&Rec.
LICENSED BY STATES:												
Anaconda Minerals/ Bluewater, N.M.	Atlantic Richfield	PS-10/82	8.8	15.2	24.0	8.6-b	0.36	590	24.58	SB LTC separate-d	N.M.	Rec.
Anaconda Minerals/Tx.	Atlantic Richfield	NB			0.0	no tailings						
Bokum Resources/ Marquez, N.M.	Wholly Owned	PB:NO			0.0	no tailings						
Chevron Resources/ Panna Maria, Tx.	Standard Oil Co. of Calif.	IS-6/85		4.2	4.2	3.3	0.79	80	19.05	CG	Texas	Rec.&LTC
Conoco-Pioneer Nuclear/ Falls City, Tx.	Dupont	D&R-1983		8.7	8.7	8.1	0.93	195	22.41	CG	Texas	Rec.&LTC
Cotter Corp./ Canon City, Colo.	Commonwealth Edison	IS-2/85	0.3	2.2	2.5	10.9	4.36	48	19.20	CG,CD EA	Colo.	Dec.&Rec. LTC
Dawn Mining Co./ Ford, Wash.	Newmont Mining Co., Midnite Mines Inc.	IS-12/83	1.1	1.8	2.9	1.0	0.34	75	25.86	LC	Wash.	Dec.&Rec.
Exxon Minerals/ Ray Point, Tx.	Exxon Corp.	D&R-1980		0.5	0.5	3.0	6.00	No DOE estimate available		CG	Texas	Rec.&LTC
Gulf Minerals/ San Mateo, N.M.	Chevron Corp.	NB			0.0	no tailings						
Homestake Mining Co./ Milan, N.M.	Wholly Owned	SS-3/85	11.4	10.6	22.0	4.3-b	0.20	530	24.09	FT,SI LTC separate-d	N.M.	Rec.
Kennecott Minerals/ Cebolleta, N.M.	Standard Oil Co. of Ohio	IS-5/82		3.3	3.3	10.9-c	3.30	100	30.30	SB LTC separate-d	N.M.	Rec.
Joy Mining Co./Wash.	Wholly Owned	LS-6/85		0.003	0.003	0.1	33.33	No DOE estimate available		CG	Wash.	Dec.&Rec.
Maybell/Maybell, Colo.	Union Carbide Corp.	IS-ND		1.0	1.0	1.8	1.80	No DOE estimate available		LC,EA	Colo.	Dec.&Rec.
Quivira Mining Co./ Ambrosia Lake, N.M.	Kerr-McGee Nuclear Corp.	IS-2/85	10.0	23.0	33.0	8.2-b	0.25	760	23.03	FT,SI LTC separate-d	N.M.	Rec.
Umetco Minerals/ Uravan, Colo.	Union Carbide Corp.	IS-11/83	5.7	4.8	10.5	31.7	3.02	247	23.52	FT	Colo.	Dec.&Rec.
UNC Mining & Milling/ Church Rock, N.M.	UNC Resources Inc.	IS-5/82 D&R-1985		3.6	3.6	2.5-b	0.69	No DOE estimate available		FT,SI LTC separate-d	N.M.	Rec.
Western Nuclear Inc./ Wellpinit, Wash.	Phelps Dodge Corp.	IS-7/84		2.3	2.3	6.0	2.61	37	13.70	CG	USDOI	Rec.
TOTAL			55.9	140.8	196.7	$263.7	$ 1.34	$4,395	$ 22.34			
PERCENT OF TOTAL			28.4%	71.6%	100.0%							

NOTES: [1] Sources: General Accounting Office, testimony before Congress on H.R. 2236 and S. 1004, July 16, 1985; Department of Energy, testimony before Congress on H.R. 2236 and S. 1004, July 16, 1985; Southwest Research and Information Center, uranium mill records.

GAO U.S. General Accounting Office.
DOE U.S. Department of Energy.

a — Surety under review by NRC staff and subject to change.
b — Unrenewed N.M. license; surety based only on $25,000/acre of tailings, not the full cost of reclamation; Long-term Care Fund contributions not included.
c — Renewed N.M. license; surety based on full estimated cost of reclamation; Long-term Care Fund contributions not included.
d — Long-term Care Fund contributions, which are required by New Mexico law of each licensee (up to $1 million), are intended only to pay for monitoring and surveillance after reclamation has been completed and the mill site turned over to state or federal ownership. LTC Fund payments by each N.M. licensee as of June 1985 (according to G.A.O.) were: Anaconda Minerals, $1 million; Homestake Mining, $1 million; Kennecott Minerals, $246,390; Quivira Mining, $1 million; and UNC Mining and Milling, $703,797.

Mill Status Abbreviations:

D&R	Decommissioning and Reclamation Underway
IS	Indefinite Shutdown
LS	License Suspended
NB	Never Built
ND	No Date Given
NO	Never Operated
PB	Partially Built
PS	Permanently Shutdown
SS	Short-term Shutdown

Type of Surety Abbreviations:

CD	Certificate of Deposit
CG	Corporate Guarantee
CO	Collateral
EA	Escrow Account
FT	Financial Test
LC	Letter of Credit
OG	Owner Guarantee
SB	Surety Bond
SI	Self-Insured
TB	Treasury Bill

Scope of Surety Abbreviations:

Dec.	Decommissioning
Rec.	Reclamation
LTC	Long term care contribution

Prepared by C. Shuey/SRIC/August '85

STATE OF NEW MEXICO
OFFICE OF THE GOVERNOR
SANTA FE
87503

TONEY ANAYA
GOVERNOR

July 10, 1986

RN 1029

The Honorable Pete V. Domenici
Chairman
Subcommittee on Energy Research & Development
SD-317 Dirksen Senate Office Building
Washington, D.C. 20510

Dear Senator Domenici:

I am pleased to submit to you testimony for the State of New Mexico for inclusion in the hearing record on your amendments to S. 1004, the "Uranium Revitalization and Tailings Reclamation Act of 1986".

Your efforts to provide assistance to a faltering industry and the depressed communities it affects are to be commended. I support your work on these issues and look forward to working with you for passage of legislation which will benefit the environment and economic health of the State.

Sincerely,

TONEY ANAYA
Governor

TA:DDF:cl

Enclosure

cc: Paul Gilman
Denise D. Fort

TESTIMONY OF THE GOVERNOR OF THE STATE OF NEW MEXICO, TONEY ANAYA, BEFORE THE U.S. SENATE COMMITTEE ON ENERGY AND NATURAL RESOURCES, SUBCOMMITTEE ON ENERGY RESEARCH AND DEVELOPMENT

INTRODUCTION

I appreciate the opportunity to present the views of the State of New Mexico on amendments to S. 1004, the "Uranium Revitalization and Tailings Reclamation Act of 1986," sponsored by Senators Domenici and Bingaman. The State supports the concept behind the Senator's comprehensive legislative proposal to expedite the reclamation of active uranium processing sites; revitalize the domestic uranium industry; and to reorganize the U.S. Department of Energy's enrichment program into an economically viable commercial enterprise. Such Federal legislation is one alternative with significant potential to protect the environment, restore jobs, at least temporarily, to depressed communities, and to provide necessary assistance to a faltering industry. This testimony will focus primarily upon environmental problems and the state contribution to the funding mechanism used to correct these problems. Also attached is an appendix which recommends several technical amendments.

Uranium production in the United States has been declining steadily for over five years. In New Mexico, only two major mines are open and only one mill continues to operate, and does so at an extremely reduced rate. Uranium employment has fallen from an historic high of over 8,000 workers to under 300 today. At the same time, mill tailings piles continue to pose serious environmental and health risks for the state.

Despite the obvious demise of the domestic uranium industry, the Reagan Administration has failed to act. The current Administration's unresponsiveness and inaction regarding this situation impedes the goals of promoting a healthy environment, energy independence, and economic recovery in those areas devastated by the collapse of the domestic uranium industry.

New Mexico endorses the approach in this bill which proposes to accomplish the restriction of uranium imports. The provision puts the United States in a more equivalent position with other uranium producing countries which impose import restrictions on their uranium or subsidize its production. Senator Domenici's legislation seeks to address this inequitable situation; additionally, it guarantees that Federal government uranium requirements will be met through purchases of domestic uranium, a measure which is long overdue.

As mentioned in my previous testimony on S. 1004, I am convinced that this legislation is crucial to ensure the comprehensive reclamation necessary to address the grave environmental consequences which mill tailings pose for both human health and the environment. Groundwater contamination has been documented at each of the sites and wind erosion continues to spread contamination to surface areas surrounding the sites. The groundwater pollution has prompted EPA to designate two New Mexico sites as Superfund sites.

In New Mexico, it is estimated that reclamation costs of the five active tailings sites located here could range from $300 million to $1.4 billion; however, only about $35 million in surety bonds have been posted by active mill licensees. The solution proposed in this bill is an assurance that taxpayers will not foot the entire bill. Without this legislation, each uranium mill which closes down leaves the state with a host of serious environmental problems, while depriving the state of the necessary financial resources to address those problems.

THE PROPOSED LEGISLATION ADEQUATELY ADDRESSES ENVIRONMENTAL HAZARDS RELATED TO MILL TAILINGS

The proposed bill would address the substantial number of environmental problems associated with uranium mill tailings piles. Tailings contain essentially all of the radioactivity originally present in the ore. Because of the crushing and grinding of the ore in the milling operation, radioactive constituents such as thorium-230, radium-226, and lead-210, as well as other non-radioactive chemically toxic species such as selenium and arsenic, are mobilized and can be readily leached into groundwater.

Thorium-230, an alpha emitter, is primarily an inhalation hazard, and chronic exposure increases the risk of lung cancer. Radium-226 has been shown to increase the risk of bone cancer. Lead-210 becomes concentrated in the liver and the kidneys, increasing the cancer risk for these organs.

Radon also creates environmental problems associated with mill tailings. With the exception of a few localities where natural uranium bearing rocks outcrop, radon gas (Rn-222), a member of the uranium decay series, does not reach high enough concentrations in nature to pose a threat to public health. But, because of the grinding/crushing and chemical leaching involved in milling, and because mills do not remove radium-226, the "parent" of Rn-222, radon gas diffuses readily through the tailings into the atmosphere. Some 6,000 curies of Rn-222 are released from Mew Mexico's larger uranium mill tailings piles annually. This figure can be compared with approximately 15 curies of Rn-222 per year from typical uncontaminated land of equivalent size. Radon through its decay into alpha emitting "daughters" presents the highest dose to the lung, significantly increasing the cancer risk

The high winds characteristic of many of the mill localities in the southwest carry radioactive dust from the tailings piles and deposit radioactive particles on property downwind of the piles. The primary cause for concern with suspended radioactive particles is from inhalation. Additionally, recent studies have indicated that a direct pathway to humans exists through the food chain as a result of livestock ingesting radioactive material on soil and vegetation around tailings.

THE BILL NEEDS AN EXPLICIT MECHANISM FOR REVIEW OF RECLAMATION EFFORTS

Because of the extremely serious environmental problems associated with mill tailings, it is essential to have an effective mechanism for review of the adequacy of reclamation efforts. The proposed legislation should have a more explicit provision for examination of the effectiveness of clean-up activities. While we commend the inclusion of Section 211(b), which incorporates the requirements established pursuant to the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA), the amendments should include additional language to ensure a regulatory scheme for oversight of reclamation endeavors

At present, the proposed legislation leaves confusion on this important issue. Section 211(b) makes it clear that remedial actions must comply with all applicable requirements established by UMTRCA but does not specifically state that the final determination of compliance with such standards must rest with the Nuclear Regulatory Commission. The ambiguity is more apparent when Section 211(a) is read in conjunction with Section 211(b). Section 211(a) grants owners or licensees the power to select their site reclamation alternative. This ambiguity could be eliminated if the bill made explicit that both the UMTRCA substantive standards and the UMTRCA regulatory oversight scheme apply to any clean-up financed under this legislation. New Mexico urges therefore, that language in the final bill make it explicit that the regulatory scheme of UMTRCA, applies not merely the standards, to clean-ups conducted pursuant to this bill.

NEW MEXICO OPPOSES A STATE SHARE REQUIREMENT

Although we do support the need for assistance in reclamation of mill tailing piles, New Mexico objects to the state contribution proposed in this bill. It is our understanding that the bill provides for mill licensees to be reimbursed for 2/3 of total clean up costs or $5.00/dry ton, whichever is less. Costs in excess of $5.00/ton will be borne by the companies. A uranium mill tailings fund will be set up to reimburse the companies for clean-up costs. The State of New Mexico would contribute $.50/dry ton or approximately $28.6 million. The DOE is required to make a one-time contribution of $350 million.

The state and its citizens have been affected in numerous ways by uranium development, not all of them beneficial. While no comprehensive study weighs the public benefits and costs, the impression should not be allowed to persist that the industry created enormous wealth for the state. The environmental and public health problems resulting from mining and milling operations have already been discussed. The economic dislocation created by the industry, in its "boom and bust" cycle, has generated a separate, serious set of problems and the very real headache of economic depression in many parts of New Mexico. The distress is reflected in the housing market, with housing in Grants, New Mexico, currently selling for 50% of construction costs. In addition, 1985 employment in the uranium industry had fallen by over 95% from its 1980 level, and during that same time period yellowcake production had decreased by 90% To require yet another state expenditure in the form of contribution to clean-up to remedy one industry's harmful activities simply adds insult to injury.

In addition to the specific problems experienced by the "boom and bust" phenomenon in the uranium belt, state revenues in general have fallen sharply. Approximately one half of the revenue of the state of New Mexico comes from the energy and mineral industries. The decline in these industries has left the state in an extremely difficult financial position.

At this time, due to federal budget reductions and diminished state revenues from the important energy and minerals sector of the state economy, we believe that the state funding requirement in this bill would impose an unreasonable demand on the resources of the state of New Mexico.

In the event that the states are required to contribute to the clean-up fund, the following changes should be made First, no date for reimbursement to the states is specified in the bill. The state urges that some time period, perhaps 10 years, be specified Next, the bill should specify that metric tons are to be used to calculate the state contribution. The difference in contribution required if computed in standard as opposed to metric tons is approximately $3 million for the State of New Mexico; the state supports the metric definition of tons.

CONCLUSION

I would like to conclude by thanking Senators Domenici and Bingaman for their interest and efforts on this subject. New Mexico continues to be plagued by the twin problems of environmental pollution from uranium mill tailings and high unemployment from closed uranium operations. We need your assistance in addressing these problems in a swift and practical manner. I appreciate your attention to our plight.

APPENDIX OF SUGGESTED TECHNICAL AMENDMENTS

In reviewing the proposed legislation, the technical staff of the New Mexico Energy and Minerals Department and the Environmental Improvement Division raised the following issues:

1. Clarification is needed of the terms "owner(s)" and "licensee(s)" as used in Section 3, the definition section. This section should define the terms as used in reference to civilian nuclear power reactors; clarification of these terms is necessary to specifically identify those entities required to contribute to the proposed Uranium Mill Tailings Fund, as required by Section 213(d) of the Act; without such clarification, it will be difficult to determine whether a particular participant in a nuclear power project, e.g., Public Service Company of New Mexico, has a financial obligation regarding the fund.

2. Under Title I Section 111(a)(1), the U.S. trade representative is instructed to "...undertake negotiations with all major uranium producing countries for the purpose of achieving voluntary restraint agreements...," on behalf of the President of the U.S. Since this is critical to the domestic uranium industry, the state of New Mexico requests supplemental guidance be provided regarding the conduct of these negotiations and the contents of such agreements. Further, under Section 111(a)(1), it is not clear if the U.S. trade representative or the Secretary of the DOE is charged with the responsibility of determining which countries are major uranium producers. This confusion should be eliminated.

3. Section 112(b)(1) should be amended. The section exempts from consideration, for the 50% domestic uranium use requirement, fuel contracted from a foreign

source before April 8, 1986. A provision should be included in this subsection or in Section 115 requiring each licensee to submit to the DOE a listing of those contracts executed prior to April 8, 1986. Such a requirement would serve to discourage the pre-dating of uranium delivery contracts which are now under negotiation but have not been executed; and it would provide the DOE with the required data upon which to later determine nuclear industry compliance with other provisions of the Act. Additionally, the language in Subsection 112(b)(2) is extremely confusing and requires clarification; for example, is the intent of this subsection to require domestic nuclear utilities (i.e., those which are projected to exceed the aggregate 50% limit for the 13-year period ending December 31, 2000) to purchase domestic uranium even if they already have existing contracts for the delivery of foreign uranium through that period?

4. The licensee self-certification of compliance with the requirements of Title I as outlined in Section 115 is commendable in theory, but may prove troublesome in practice. Therefore, a provision should be added authorizing the DOE to audit annually a small percentage of licensees so as to verify compliance. In addition, Subsection (c) should include a breakdown of that quantity of foreign-origin uranium excluded from the requisite calculation in Section 112(a). We also recommend that Section 116 be amended to specifically include a reference to the Bonneville Power Administration, another government owned large uranium buyer, after reference to the Tennessee Valley Authority, concerning purchase of foreign uranium.